**Best Practices and Critical Criteria to Support Successful
Youth-based Environmental Engagement Programmes:
An evaluation of the YEEP framework**

by
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AUTHOR'S DECLARATION

I hereby declare that I am the sole author of this thesis. This is a true copy of the thesis, including any required final revisions, as accepted by my examiners.

I understand that my thesis may be made electronically available to the public.

ABSTRACT

*"Our communities will only reach their potential as vibrant
and healthy places when youth are welcomed as full
participating members."*
(Warner, Langlois, & Dumond, 2010)

Environmental degradation and inadequate positive and constructive environmental education has led youth to feel disconnected from environmental sustainability initiatives in their communities. Young people, though typically not seen as active citizens within the community, are becoming exceedingly conscious and supportive of environmental initiatives. Youth engagement is increasingly recognized as a way to guide young people in attaining meaningful and active involvement and achieving action competence.

It is in this light that the literature from the fields of environmental education and youth engagement are collectively examined to address these pressing environmental and societal concerns. This explanation will help to uncover how best to design youth-based environmental engagement programs which promote a culture of sustainability and action competence. As acknowledged by Riemer, Lynes and Hickman (2013), limited analysis has been done in support of creating a comprehensive understanding of 'best practices' in non-formal environmental programmes where youth have decision-making power despite extensive research conducted on what environmental education and youth-engagement mean and why both theories are important. In bringing together these two bodies of literature, this specific study explores these best practices by examining the theoretical Youth-Based Environmental Engagement (YEEP) framework, developed by Riemer et al. (2013). The YEEP framework, while grounded in sound academic research, has yet to be rigorously compared to real programme development processes. Through development of a pilot program at the Ecology Action Centre (EAC) and case studies of programming at the Sierra Youth Coalition (SYC) and Reduce the Juice (RTJ) organizations the goal is to look at how the YEEP model can be refined to better represent a framework for developing resilient and quality programmes.

To guide developers, practitioners, and researchers in designing and evaluating successful youth-based environmental engagement programmes, the results of this research propose a step-by-step nine-phase process as well as a *Guideline for Best Practices* that is presented for comparison to quality design components. Recommendations to researchers and practitioners are made to guide future research priorities and further examine the strengths of the modified YEEP framework and address the limitations of the thesis. Recommendations to the EAC are made to provide direction on their final evaluation of the YAC: ATACC pilot programme.

Key words: youth-based environmental engagement, participatory decision-making, action competence, experiential learning theory, active ecological citizenship.

ACKNOWLEDGEMENTS

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Chapter 1: INTRODUCTION

Youth are "willing to share, learn and work…
if you are willing to share, learn and work with them"
(Leonard, 2004, p.2)

Rationale for Research

Urbanization of society has led many youth to feel a fading connection and a growing disconnect from the natural elements of our deteriorating environment (Louv, 2005, p. 1) and with youth's exclusion from community decision-making, they also report to feeling disenfranchised from their communities (World Youth Report, 2003). Avoiding apathy in the younger generation is crucial and there is a necessity to educate youth and motivate them to actively participate in sustainability initiatives (Apathy Is Boring, 2004, p 4). Engagement of the young generation in action-based environmental initiatives is critical for the common future of all (UNESCO, 2012). Communities are built as people come together to make meaningful contributions for the benefit of everyone, but youth are typically dismissed from taking active part in community leadership. Younger people are often excluded because of common misconceptions surrounding lack of motivation for involvement and lacking skills to make a real impact (Warner, Langlois, & Dumond, 2010). Yet, they do desire to make a difference, to become agents of change, to gain skills to be able to make meaningful contributions, and to help build their communities for a sustainable future (Garrison, 2005).

A study funded by the Public Health Agency of Canada in 2000 found that "one of the most consistent concerns of youth is that their voices are not heard, respected, or taken seriously by adults" (Garrison, 2005, p. 4). Youth have unique perspectives and innovative contributions which can benefit all aspects of a community (i.e. social, environmental, governance, etc.). Laena Garrison (2005) found that 51% of teenagers feel they are rarely or never listened to. Youth engagement not only allows young people to contribute in meaningful ways while developing their leadership and decision-making skills, but helps with the development of active ecological citizenship (Kenis & Mathijis, 2009; Kozack & Elliot, 2011; Riemer, Lynes & Hickman, 2013; Reed, Kenter & Bonn et al., 2013).

The term 'active ecological citizenship' embodies three interconnected concepts: action competence, education, and citizenship. First of all, the 'active' part of the term relates to having the skill, knowledge, and confidence to take action through societal decision-making (i.e. action competence) (Jensen & Schnack, 1997). Action competence is an outcome from having the education, skill, and confidence to take action, most significantly perhaps experiencing the success of producing a tangible and meaningful result. Therefore, action competence comes with an inherent connection to education – in this case, an education and exposure to basic ecological

literacy which has led one to gain an appreciation and knowledge of how the world they will inherit functions as a complex system of interconnected resources and cycles – the 'ecological' portion of the concept. Finally, 'citizenship' gives one the right to participate as full members of a community (UNESCO: Citizenship, retrieved on Jan 25, 2015). Linking this back to the focus of this thesis, environmental youth engagement programmes can help motivate deep connections with nature, and exploration of the wonders of renewable resources and natural cycles can help foster of a sense of stewardship and responsibility for the earth. Ultimately, these programmes can begin to create active ecological citizens (Riemer et al., 2013, p. 18).

With a growing mass of people turning away from the environmental distress of the world, this research aims to work towards creating an empowered and more sustainable culture in our society by bringing together the youth engagement and environmental education fields of research to further the movement of supporting youth as active ecological citizens. Although programmes exist which aim to engage youth in becoming active ecological citizens, there is a research gap in the "systematic approach to the development and evaluation of these programmes" (Riemer et al., 2013, p. 1). This research aims to work towards filling this gap by analyzing the elements and approaches which make up a 'best-practice' youth-based environmental engagement programme design model. The Youth-Based Environmental Engagement Programme (YEEP) framework, developed by Riemer et al. (2013), is the starting point from which an academic literature review, one pilot-programme, and two case studies will recommend improvements and alterations to the YEEP framework to better reflect real-life application. The pilot programme was developed in collaboration with the Ecology Action Centre (EAC) using the YEEP framework as a design model. The two case-studied organizations were the Sierra Youth Coalition (SYC) and Reduce the Juice (RTJ).

Background on Agenda 21

Not only does youth engagement benefit environmental change, communities, governments, and youth development, it meets a legal obligation Canada holds to engage youth at the "national and international levels, taking full account of regional and sub-regional conditions to support a locally driven and country-specific approach" (UN, 1992, p. 14-15). In 1992, the United Nations Conference on Environment & Development in Rio de Janerio, Brazil developed 'Agenda 21.' Agenda 21 "reflect[ed] a global consensus and political commitment at the highest level on development and environment cooperation" (UN, 1992, p. 3) as it sought to address pressing problems of the day and aimed to prepare for future challenges. More specifically related to this thesis is Chapter 25, dedicated to 'Children and Youth in Sustainable Development' Within this chapter, youth were identified as a 'Major Group' and critical to the long-term success of Agenda 21 as they comprised approximately "30 percent of the world's population" (UN, 1992, p. 275).

Citizenship is defined by Lagos (n.d.) as "individuals with distinct relationships to the state, along with the social status and power these relationships imply" (p. 2). Unfortunately, as Engin Fahri Isin (2008) has identified, "children remain non-citizens; the closest connection to a citizenship regime that children ha[ve] been accorded [is] the recognition of children as future citizens, or citizens in the making" (p. 169). However, the UN (1992) recognized these young citizens as critical key stakeholders in the protection of the environment and social development. They stipulated the significance of youth involvement in all levels of decision-making processes as youth are highly vulnerable and directly affected presently – and will be in the future – by the effects of environmental degradation. It should be acknowledged that some limitations and justification for the position of children in society are reasonable due to safeguarding against victimization and vulnerability as well as retaining innocence and developmental uniqueness within each child. Even so, youth are exceedingly conscious and supportive of environmental initiatives and thus should be involved in the participatory process "in order to safeguard the future sustainability of any actions taken to improve the environment" (UN, 1992, p. 277).

The success of this Agenda was slated as the responsibility of governments, with national strategies, plans, policies, and processes being the primary methods of implementation. Agenda 21 also called upon the "public participation and the active involvement of the non-governmental organizations" (UN, 1992, p. 3). To achieve all of the goals and objectives within Agenda 21, the UN acknowledged the fundamental prerequisite of broad public engagement in decision-making. Youth are a particularly good target group for community-based non-formal environmental initiative programmes for several policy-related reasons. First, the United Nations Convention on the Rights of the Child (UNCRC) state that a youth's views must be considered and taken into account in all matters affecting him or her (Article 12). Further, this UN mandate states that youth should be involved in all levels of decision-making which will directly or in-directly affect them in the present or future.

Yet, how do youth gain the skill, knowledge and confidence to participate in societal decision-making? With a lean towards educating the next generation, environmental engagement programmes give space for youth to practice and gain competence in decision-making processes and learn how to be active ecological citizens for their present and future societal roles.

Background on the Decade for Education for Sustainable Development

In 2005 the United Nations Educational, Scientific and Cultural Organization (UNESCO) declared a 'Decade for Education for Sustainable Development' (DESD) which concluded in 2014. With the decade coming to a close, this presents an interesting opportunity for future researchers to reflect on the impact and analyze the results. The goal of the DESD was "to

integrate the principles, values, and practices of sustainable development into all aspects of education and learning" (UNESCO: ESD Mission, n.d., para. 1).

To fully understand this goal, one must first comprehend the term *sustainable development*. Sustainable development, as defined by the Brundtland Report, is "development that meets the needs of the present without compromising the ability of future generations to meet their own needs" (World Commission..., 1987). As part of this goal, UNESCO initiated the DESD. The concept of Education for Sustainable Development (ESD) is "education that teaches us how to be responsible citizens, by encouraging changes in behaviour that will create a more sustainable future in terms of environmental integrity, economic viability, and a just society for present and future generations" (UNESCO: ESDa, n.d., para. 1). Its aims are to equip members of society "with the knowledge and skills of sustainable development, making them more competent and confident" (UNESCO: ESDb, n.d., para. 3) with hopes of "increas[ing] opportunities for a healthy and productive life in harmony with nature, and with concerns for social values, gender equity and cultural diversity" (UNESCO: ESDb, n.d., para. 3). Many countries have started to adopt the concept of ESD as a framework, however, it has been entirely dependent upon international stakeholders initiating the movement and collaborating with the UN and between countries. Canada responded strongly and some provinces have made strides in integrating ESD into their formal educational systems.
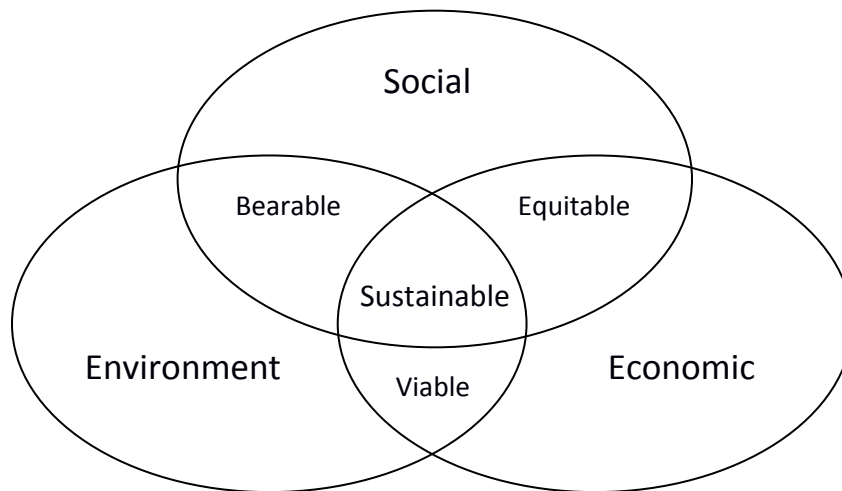
Figure 1. Interdependent Systems of Sustainable Development

For sustainable development to work, development must take into account the environmental, societal/social, and economic spheres (see **Figure 1**). The three spheres are complexly interdependent and, thus, it is impossible for this thesis to focus on environmental or societal goals alone. While the concept of ESD directly parallels many objectives of youth engagement and environmental education, there have been only limited endeavours into ESD in

the non-formal environmental youth engagement field. This thesis, while not directly utilizing the formalized ESD framework, uses the context of ESD teachings to understand the motives and need for education which supports youth to become more actively involved in building a culture of sustainability within our society. The ESD goals for encouraging engagement, educating for sustainable development, and promoting action competence are reflective of the objectives found in the case studies examined in this thesis.

Youth: Finding a Common Definition

In 2012, 50.5% of the world's population was below the age of 30 (Euromonitor International, 2012). However, it is important for this paper to clarify the usage of the term 'youth' as there is very little consensus on age range of the individuals of this age category (UNFPA, 2010); the literature on the term 'youth' ranges from 10-35 years of age. The United Nations (2004) refers to 'youth' as people between the ages of 15-24, while other studies use a 10-14 or a 16-19 age bracket (Ho, 2013; Arnold, Cohen, & Warner, 2009). The Sierra Youth Coalition (SYC), a cross-Canadian youth-based organization and one of the case studies in this thesis, utilizes the age range of 14-30. Many other youth-led organizations also include 35 year-olds as youth due to the nature of their executive board composition. Surprisingly, there are contradictions even within single organizations. Various articles from Statistics Canada identify youth between the ages of 12-17 while others indicate youth as between the ages of 14-23 (Ho, 2013, p. 8).

'Youth', as the term applies to this research, will range from 8-24. There were many different elements considered when defining this age bracket, including (a) the experience and developmental aspects, (b) the generational (social/cultural) aspects, and (c) ensuring the bracket would allow for a 'by-youth-for-youth' ideology rather than an adult planned and delivered programming situation. Generally youth can be defined as "those in the period of life moving from childhood to adulthood" (Schusler & Krasny, 2010, p. 209-210). This range starts at a lower age than other literature because the Ecology Action Centre's (EAC) youth programme included eight year olds who expressed mature and committed interest in being involved. It also tops-out at 24 years of age because beyond that range, there becomes too much of a difference in the experiences, developmental and generational differences and the question of whether the programme really would be 'youth-led'. The 8-24 year old allows this research to maintain applicability and generalizable to a broad range of youth-based environmental engagement programmes and continue supporting a 'by-youth-for-youth' ideology.

Youth Engagement: What Is It?

Youth engagement is becoming increasingly recognized as a way to guide youth in attaining meaningful involvement and feeling action competence within their roles in society. Thus, the field of youth engagement becomes an important component in the broader environmental purpose of this thesis: to support the movement to create active ecological citizens. Ilkiw (2010) writes that "young people want to be taken seriously and are organizing themselves, researching, building knowledge, and advocating for themselves, in ways that make sense to them" (p. 39). Youth engagement, although a broad concept, can be defined most concisely as "the meaningful participation and sustained involvement of a young person in an activity that has a focus outside himself or herself" (Pancer, Rose-Krasnor, & Loiselle, 2002, p. 49). Yet this only brushes the surface of what youth engagement actually entails.

Katrina Ketchum (2013) explains how the terms participation and engagement are often used interchangeably, but do not actually carry the same meaning (p. 25). As this thesis attempts to identify the best practices for *engaging* youth, it is important to clearly differentiate between the two to aid readers, programme developers, practitioners, and researchers in understanding the differences (Hoffman, Perillo, Calizo et al., 2005). Participation is a passive form of involvement where participants show up and partake in the activity. In contrast, a more active form of involvement, engagement, occurs when participants add to the activity and take action. Many youth programmes offer fun and time-filling activities, but rarely actually actively engage participants; "engagement is the step beyond participation" (Brains on Fire, retrieved on February 17, 2015). The State of Victoria (2013) outlines that in order to provide quality engagement, programmes should invite participants to share opinions which contribute and add to the conversation/project, collaborate on decision-making and policy-building, and be empowered to take action (State of Victoria, retrieved on Feb 17, 2015). This thesis utilizes the terms 'engagement' and 'active involvement' interchangeably and 'participation' and 'passive involvement' interchangeably.

Successful principles and practices have been developed, but it is important to acknowledge that there is no 'right' way to engage youth. Laena Garrison (2005) indicates each situation is different and each city, community and organization will approach youth issues in a unique way. Youth from different areas have a diverse spectrum of needs, perspectives, individual strengths, and abilities to be able to engage within their communities and any model of successful practice should acknowledge this. HeartWood Centre for Community Youth Development has been an active organization in Halifax, Nova Scotia and has created a youth engagement model, the *Circle of Awesomeness* (**Figure 2**, p. 7) which depicts successful principals and practices under the sub-sections of 'Core Values', 'Tools For Growth', and 'Community Resources'.
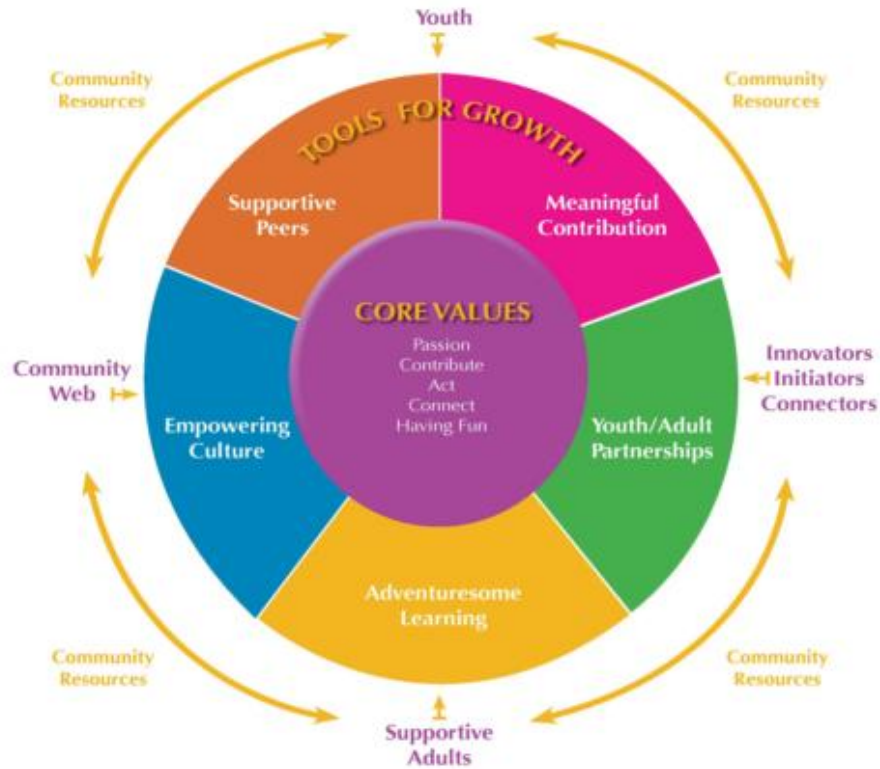
Figure 2. HeartWood Centre for Community Youth Development 'Circle of Awesomeness' (HeartWood, 2011)

Taking the Weight off Through Environmental Youth Engagement

Historically, environmental education has exposed youth to the weight of environmental issues, leading to disengagement and feelings of powerlessness (Kelsey & Armstrong, 2012). This concern that environmental education could create anxiety and push young people even further from taking action has instigated much discussion about how to beneficially educate about environmental issues. Coined 'eco-phobia' by David Sobel, this fear of the natural world and the inherently connected ecological problems is a key reason for the importance of developing youth-based environmental engagement programmes. Environmental issues are prevalent and common knowledge in our society – the anxiety and worry already exists – the emerging focuses of environmental education are on grounding youth in positive experiences of nature, teaching them action competence, and allowing them to "acquire the courage, commitment and desire to get involved in the social interests concerning these subjects" (Jensen & Schnack, 1997, p. 164; Kelsey & Armstrong, 2012). Active environmental engagement allows youth to claim a sense of personal responsibility and ownership from which they feel competent in taking action, lessening their sense of being overburdened with societal negativity (e.g. 'doom and gloom syndrome' and 'ecophobia' [Sobel, 1996; 2008; O'Brien, 2008; Kool &

Kelsey, 2005]). This is supported by Kozack and Elliot (2011) who indicate that the process of taking action helps to gain greater understanding and students realize that anything worth knowing in turn is worth action upon (i.e. active ecological citizenship)(p. 8). The resulting sense of ownership supports the aim of bringing sustainable balance to the interface between the natural and societal systems (**Figure 1**, p. 4) and cultivating active ecological citizenship in the younger generation.

Research has been done on what general youth-engagement means, why it is important in a societal context, and even – on a somewhat more limited basis – why youth engagement is important for environmental change. However, there has been no analysis done to compile a comprehensive understanding of 'best practices' as they pertain specifically to informal environmental programmes where youth have some level of decision-making power. Significant benefits can be gained for young people when they become engaged in their communities. John Ure (2006) lists a number of them in 'The Youth Engagement Spectrum' report. The primary ones include: improvements to self-confidence, career outlook, ability and inclination to participate in the civic life of the community, innovative problem solving, and zeal to contribute and serve (p. 6). These outcomes, although related to youth engagement in the general sense in the literature review documents, are easily transitioned to be applicable to youth engagement in environmentally-based programmes and this thesis research.

There have been many studies connecting benefits such as "increased self-confidence, self-esteem, optimism, independence, and autonomy" (Louv, 2005, p. 230) to nature experience. Louv (2005) identifies many circumstances where environmental education and nature experience has substantially supported "enhanced cooperation and conflict resolution skills; gains in self-esteem, problem-solving, [and] motivation to learn" (p. 208).   The relevance of engaging youth in a programme which values environmental integrity, economic viability, and a just society for present and future generations is clear with the strong linkage of benefits from environment-based programmes, including findings that individuals are happier when they have made the choice to live sustainably (O'Brien, 2013). However, from my research a comprehensive empirical literature in which non-formal youth-based environmental programmes are designed and evaluated remains limited.

Environmental Youth Engagement in the HRM

As a major contribution comes from a youth-based environmental engagement programming at the EAC, it is important to examine the current youth engagement activities in that geographical region. Youth engagement is significantly important to the Halifax Regional Municipality (HRM) due to the growing number of youth in this extensive region. There are approximately 44,350 youth, or 11.4% of the HRM population, between the ages of 10-19

(Statistics Canada, 2012) who may stand to benefit from active and meaningful engagement. Although this statistic does not represent the full target age group of this study, it is still relevant as a broad indicator of how many youth are present in the geographical research area. Even with the HRM Youth Engagement Strategy (Hirtle, & Ure, 2006) already in place, there are still youth looking for ways to become engaged, learn, and contribute to their communities. This has become increasingly clear as the Ecology Action Centre (EAC) attempts to develop ways of directing youth volunteers towards meaningful environmental projects. Without a structured programme which supplies adequate support and guidance the EAC has had difficulties engaging youth in meaningful ways. The youth approaching the EAC desire to make an impact but have felt frustration with the lack of structure and tangible outcomes from their volunteer hours. Matthews, Limb, & Taylor (1998) agree there are limited opportunities for youth to take part in meaningful decision-making concerning the social and environmental futures and assert that it seems as if engagement and "participation is still conceived to be an adult activity" (p. 135).

The EAC developed a pilot programme in attempt to address the lack of support for incoming youth volunteers and the youth engagement concerns within their organization. It must be noted that youth were not engaged in the decision-making of the EAC, but rather within a pilot programme which was housed in the EAC organization. The pilot programme was based around the idea of engaging youth as contributing decision-makers who would choose relevant programme activities and projects which reflected their interests, thus giving them ownership over the programme. Throughout the programme, facilitators provided support and offered resources to help youth strive towards and achieve their chosen, tangible outcomes. By incorporating experiential and social learning opportunities, youth engagement provided holistic experiences which created a pathway to allow participants to enthusiastically choose what they wanted to learn through a youth-centred programme. The participants named the programme the Youth Action Club: Adventure Training and Creating Coolness (YAC: ATACC) with a slogan of: "if it's designed about us without us, it's not for us".

Youth-Based Environmental Engagement Programme Framework

Riemer et al. (2013) state a clear need for further research of the formal means of design and evaluation of environmental education programmes due to the limited knowledge of what qualities are necessary for effective youth engagement in non-formal environmental programmes (p. 2). Thus, they proposed the Youth-based Environmental Engagement Programme (YEEP) framework using a visual YEEP model (**Figure 3**, p. 10) as a guide for further development of evidence-based practices. In conjunction, a programme development and evaluation table (see **Appendix A**, p. 98) was developed which presents an abbreviated description and list of considerations for each component. Founded in the cross-analysis of civic youth engagement literature, environmental youth engagement, and an adaption from the Rose-Krasnor (2009)

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model for engaging youth in environmental change, the paper suggests the framework would benefit from rigorous testing in a real-life application, a call to which this research responds. As a real-life youth-based environmental engagement programme which was designed following the YEEP model, YAC: ATACC provides vital insight into what components were successful and where improvements or modifications could strengthen the model.
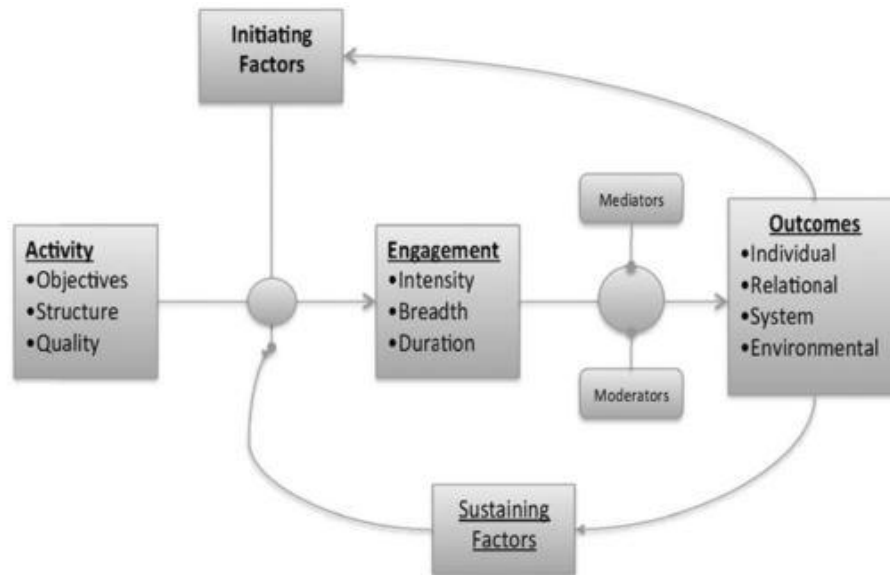
Figure 3. YEEP model (Riemer, Lynes, Hickman, 2013, p. 7).

This thesis analyzes the effectiveness of Riemer et al. (2013) YEEP framework when applied to real-life programmes offered by Canadian youth-engagement organizations. Primary data was collected from the EAC's pilot YAC: ATACC programme which directly tested the YEEP framework by using it to structure the programme. Case studies were conducted on the Sierra Youth Coalition (SYC) and Reduce the Juice (RTJ) organizations which both have successful programmes whose programme elements are explored in the context of the YEEP model sub-components in Chapter 4. YAC: ATACC and the two case studies create a baseline for comparison and are collectively cross-analyzed to further test the real-life application and suggest modifications for improvement of the YEEP model.

Research Approach

With the overall goal of creating a foundation for environmental change, the YEEP model brought me to explore the theoretical literature of environmental education, youth engagement, participatory stakeholder engagement, and learning theories such as experiential

education, social learning, and action competence. These informed the identification of major research gaps in the academic field, and development of a knowledge-base for the past and present developments of best practices in regards to youth environmental engagement strategies.

From there, I built my research rationale and identified my research objectives after having determined limited information existed for best practices of designing youth-based environmental engagement programmes. The goal of this thesis is to evaluate the YEEP model in context of the best practices which Canadian environmental youth-engagement organizations have been successfully integrating into their programming.

Youth voices contributed strongly to this research through semi-structured interviews and observational data collected during a pilot youth-based environmental engagement programme launched in collaboration with the Ecology Action Centre. This pilot programme was structured using the YEEP framework components. A series of focus groups included youth as key stakeholders in the process of designing the programme and youth held the majority of the decision-making power throughout the programme.

Secondary data was collected through two case studies of successful Canadian youth-based engagement programmes at the Reduce the Juice and Sierra Youth Coalition organizations. Interviews with key players from these organizations and document analysis aided in forming a comprehensive list of tried and tested best practices which have been implemented in real life.

Findings from the theoretical literature review, the EAC primary data, and the case study secondary data were analyzed to finalize recommendations for modifications to the YEEP framework model. This thesis recommends these changes in order to better represent the actuality of implementation for youth-based environmental engagement programmes in Canada.

Research Questions

This study was driven by the following questions:
- "What are the best practices and critical elements which support existing, successful youth-based environmental engagement programmes?"
- "Does the Youth-Based Environmental Engagement Programme model (Riemer et al., 2013) correctly represent real-life application of best practices of non-formal youth-based environmental engagement programme design?"

Research Objectives

The objectives of this thesis research were to:
- Identify and analyze the theory of best practices and critical criteria for development of youth-based environmental engagement programmes through a comprehensive literature review;
- Collaborate with the Ecology Action Centre (EAC) and document development of the design of a pilot youth-engagement programme (Youth Action Club: Adventure Training and Creating Coolness [YAC: ATACC]) which is founded on the Youth-Based Environmental Engagement Programme (YEEP) framework (Riemer, et al., 2013); and
- Analyze – and modify if necessary – the YEEP model to ensure it correctly reflects real-life application for best practices of non-formal youth-based environmental engagement programming.

Thesis Structure

This thesis is divided into six chapters which are designed to address the research questions leading to (a) an analyzed and modified YEEP model based on literature reviews, case study analysis and practical real-life application – YAC: ATACC and (b) a comprehensive list of best practices for engaging youth in youth-based environmental engagement programming. The Introduction serves as a foundation to situate how this research fits within the broader aim of supporting positive environmental change, and to outline the research rationale, questions and the YEEP framework. This thesis utilizes the YEEP framework sections (*Activity, Engagement, Initiating/Sustaining Factors, Mediators & Moderators, and Outcomes*) to structure the descriptions of primary and secondary data findings, making it easier for the reader to understand the cross-analysis between the case studies and the YAC: ATACC pilot programme.

Chapter 2 covers the academic literature review by looking at the theoretical background of active ecological citizenship, participatory decision-making, experiential learning theory, and action competence. The YEEP framework is then critically explored in the context of the literature review theories and other environmental education, youth engagement, and programme development research.

Chapter 3 introduces the current youth environmental engagement scene in the geographical research area of Halifax Regional Municipality. It narrows the scope to discuss the Ecology Action Centre and focuses in on the formation of the YAC: ATACC pilot programme.

Chapter 4 outlines the methodological framework with which a multi-method qualitative research approach is taken. Explanations for the procedure are provided concerning how

primary and secondary data was collected and analyzed and the data collection from the YAC: ATACC, Sierra Youth Coalition (SYC), and Reduce the Juice (RTJ) are presented.

Chapter 5 situates the results from the three organizations in context with the literature review findings and suggests possible modifications to the YEEP model framework in reflection of application to real-life development and deliverance of non-formal youth-based environmental engagement programming.

Chapter 6 concludes the thesis by offering a summary of major findings along with recommendations for future research to address the limitations and further solidify the results. Recommendations are offered to the EAC to guide the final evaluation of the YAC: ATACC pilot programme.

Chapter 2: THEORETICAL BACKGROUND

"Tell me, and I will forget. Show me, and I may remember.
Involve me, and I will understand."
(Confucius around 450 BC)

Literature Review Strategy

There are two literatures that come together under the topic of environmental youth engagement, those of youth engagement (which seeks to engage youth as citizens and create social change), and environmental education (which primarily has the ultimate goal of environmental change). The YEEP model brings together these literatures to consider how best to cultivate youth as active environmental citizens.

The theory of this paper can be broken into three main concepts within the framework of youth-based environmental engagement: (a) active involvement, (b) education, and (c) action. Riemer et al. (2013) similarly recognize these three concepts under the terms of 'affective', 'cognitive', and 'behavioural' engagement (p. 10). From the youth engagement and citizenship education literature, the concept of active involvement (affective engagement) is founded within Sherry Arnstein's (1969) theory of *Ladder of Citizenship Participation* and has evolved through a paradigm shift into a "Social Learning" approach. These two paradigms put into context the value of planning *with* youth and including them in the process of programme design as participatory stakeholders. The second theme is a concept that draws in both youth engagement and environmental education fields and this section explicitly states literature supported and correlation-based statements. Education (cognitive engagement) is introduced through Kolb and Fry's (1975) "Experiential Learning Theory". Finally, through the concept of action competence, primarily within the literature of environmental education, real-life experiences of effecting change allow youth the opportunity to gain knowledge, skills and understanding which is integral for action (behavioural engagement) to occur. Once youth have the opportunities to be part of a discussion for which they have enough knowledge, skills and understanding, they will begin to feel competent in taking action (Jensen & Schnack, 1997).

The following sections are organized using the three main concepts to explain the importance of active involvement, education, and action competence in youth-based environmental engagement programmes.

Active Involvement: A Paradigm Shift

Many studies have found that youth want to be involved, want to engage, and they have valuable opinions they want heard. Arjen Wals (2006) identified an increased emphasis in the sustainable development field on the promotion of reciprocal relationships between experts and the general public to create more deliberative forms of involvement and social learning (p. 41). This type of relationship develops a wealth of shared and interactive knowledge gathered from many different perspectives and personal experiences (Lindblom & Cohen, 1979). When creating any programme to engage youth, as indicated previously, it is integral to take into account what perspectives and personal experiences they bring to the programme and to include youth as participatory stakeholders through youth/adult partnerships (see HeartWood's *Circle of Awesomeness* [**Figure 2**, p. 7]; Hirtle & Ure, 2006).

There are many levels of participatory stakeholder engagement. In 1969, Sherry Arnstein published the 'ladder of citizen participation' model in an attempt to determine what citizen participation was and how it related to the social imperatives of that time (p. 216). Roger Hart (1992) later adapted the ladder to propose a new paradigm for children's involvement in projects. Hart defined participation as "the process of sharing decisions which affect one's life and the life of the community in which one lives" (p. 5).

The Ladder of Participation

8. Child-initiated shared decisions with adults

7. Child-initiated and directed

6. Adult-initiated shared decisions with children

5. Consulted and informed

4. Assigned but informed

3. Tokenism

2. Decoration

1. Manipulation

Degrees of participation

Non-participation

Eight levels of young people's participation. The ladder metaphor is borrowed from Sherry Arnstein (1969); the categories are from Roger Hart.

Figure 4. Ladder of Participation
(Roger Hart, 1992, p. 8)

Hart's research emphasizes the importance of youths' active involvement in decision-making, noting the UN's ratified Convention on the Rights of the Child and citing that it "is a fundamental right of citizenship" (p. 6). His concern is that if youth are not "involved with meaningful projects with adults... [then] it is unrealistic to expect them to suddenly become responsible, participating adult citizens...without prior exposure to the skills and responsibilities involved" (p. 5). The new children's 'ladder of citizen participation' (**Figure 4**, p. 15) includes eight rungs – or categories – which correspond to the decision-making power that young citizens hold. These levels include (1) Manipulation, (2) Decoration, (3) Tokenism, (4) Assigned, but Informed, (5) Consulted and Informed, (6) Adult-Initiated, Shared Decisions with Children, (7) Child-Initiated and Directed, and (8) Child-Initiated, Shared Decisions with Adults.

However, scholars have identified a paradigm shift from the linear Arnstein's and Hart's 'Ladder of Citizen Participation', developed in 1969 towards the more complex non-linear theory of 'Social Learning' (Wals, Hoeven, & Blanken, 2009; Lundholm & Plummer, 2010; Glasser, 2007). This is primarily due to the limitations and constraints a ladder system entails. First of all, it juxtaposes a clear division of the powerless against the powerful without taking into account that neither are homogeneous groups. As Arnstein (1969) acknowledges, "each group encompasses a host of divergent points of view, significant cleavages, competing vested interests, and splintered subgroups" (p. 217). Secondly, it does not take into account analysis of obstacles which block the levels of involvement, such as resistance to power redistribution, political socioeconomic infrastructure, and paternalism (Arnstein, 1969). Finally, the eight rungs do not represent the real world where there may be many more rungs which are not clearly distinguishable or exclusively characterized. Therefore, the use of social learning is proposed in order to "jointly [look] for meaningful, supported and feasible solutions for challenges with respect to which no one has a monopoly on wisdom" (Wals et al., 2009, p. 5). Each person, young or aged, has unique beliefs, knowledge and concerns which will enrich a community and/or programme. Not only will each person bring their own ideas, they will challenge other people to think in different ways, build upon previous conceptions, and create a healthy exchange of information between everyone involved (Hirtle & Ure, 2006).

Social learning is described by Cecilia Lundholm and Ryan Plummer (2010) as "processes both at the individual and at the group level as well as processes leading to changes of institutional frameworks…the term 'social' often refers to learning that comes from the communication and interaction (sharing of information, different perspectives, etc.)" (p. 479). This type of learning is a tool which can be employed to teach teamwork, interactive social skills and to emphasize importance of each person's ideas and knowledge. Much like the eighth rung in Arnstein and Hart's model, youth use discussion to discover not only that they have a right to voice their point of view, but that their points of view may not always be the same as those of others. Discussion and consensus building skills help youth to become "more socially responsible and cooperative" (Hart, 1992, p. 35) and thus "develop into more competent and

confident members of society" (Hart, 1992, 34).   Youth who feel confident, act competently, and participate in meaningful ways can become catalysts for change in their community.

However, Lundholm and Plummer (2010) also discuss the weaknesses of this concept. Glasser (2007) points out, consensus and decision-making is completely dependent upon "the preparedness, competence, openness, and maturity of the individuals engaging in it as on the rules that guide particular organizational learning, public participation, or decision-making processes" (p. 53). A child's ability to engage varies greatly depending upon many psychological, social, physiological, and environmental factors; "different children at different times might prefer to perform with varying degrees of involvement or responsibility" (Hart, 1992, p. 11). Adults need to be aware of limitations from a child development standpoint and must be sensitive to appropriate methods and timings for listening, supporting, and guiding. The balance between programming goals and objectives and the engagement structure must always be carefully examined in order to ensure the most effective experiences and outcomes for all stakeholders.

Revisiting the necessity of the three components (active involvement, education and action), Glasser (2007) indicates that, even if a decision is reached, it is only as good as the success of putting the plan into action. Applying this concept to the environmental education field, for example, if a youth action group came to a decision as a whole to create a school garden, yet never actually built one, the social learning of the group has, on some level, failed to achieve action competence and the learning from the experience is limited. In his essay, Hart (1992) indicated that in order to engage confidently and competently substantial hands-on experiential learning is necessary; active involvement is not a skill which can be learned through abstractive teaching. This holds true with social learning; youth will not feel motivated to be involved if they do not understand or feel a sense of ownership, nor will they learn competence in the skills involved without practice. In order to foster motivation and competence, youth must "at least partially design the goals of the project themselves" (Hart, 1992, p. 5).

Education: An Experiential Learning Process

Fundamentally, experiential learning is one of the most natural means of learning since it transforms experiences into a broader conceptual framework of understanding (Beard and Wilson, 2006). The natural environment and its corresponding issues appear throughout society in books, on television, in schools, and on billboards, however, as Reed (1996) argues, there is absolutely no replacement for real-life experience, or as HeartWoods' (2008) research puts it '*adventuresome learning*' (**Figure 2**, p. 7). Although knowledge of different experiences can be transferred through stories and explanations from one person to another, primary experiences are had only when a person has had to act during a real-life situation. First-hand experiences show

youth unlimited opportunities to learn and, as Chawla (2008) points out, "the richer the environment, the richer the possibilities" (p.105).

Learning, defined by Kolb (1984), "is the process whereby knowledge is created through the transformation of experience" (p. 41). People experience potential learning opportunities every second of the day and experiences are integral in forming the very foundation of understanding our world. However, Beard and Wilson (2006) indicate that experience does not always result in learning; there needs to be a reflection upon the experience to contemplate how and why it occurred. If reflection does not occur, the experience will fade into the normal everyday stimulants. Youth-based environmental engagement programmes are typically built upon the foundation of intertwining values of learning and experience which enable students to gain knowledge of how the systems of our world function and interact in order to feel passionate about taking pro-environmental action. A quality youth engagement programme strives to empower through youth-adult partnerships, educates its participants through adventuresome learning, and supports meaningful contributions in the community (HeartWood, 2008, p. 4). Bridging the gap between the two literature fields, this cycle of experience, learning and taking action is integral for the participant to build his or her own action competence. As a theory that has emerged as a movement within environmental education, action competence helps people to build up the "courage, commitment and desire to get involved" (Jensen & Schnack, 1997, p. 164) in environmental initiatives based on developing an understanding and insight of how to make an impact. Before it is possible to make an impact, however, one must learn the skills and methods for taking action.

It is important to note that there are many different teaching approaches; however, this research focuses singularly upon the experiential learning approach. Developed in 1969 as a holistic theory of learning, Experiential Learning Theory (ELT) is highly interdisciplinary and portrays "an idealized learning cycle where the learner "touches all the bases" – experiencing, reflecting, thinking, and acting" (Kolb & Kolb, 2009, p. 298). This approach was chosen for (a) the long historical presence in the field of education, and (b) its highly applicable nature of the theory to both the environmental education and youth engagement fields.

Due to the deep complex connection between learning and experience, it is vitally important to fully understand the different steps involved in ELT. These steps, visually represented in **Figure 5** (p. 19), were developed by David Kolb and Ron Fry in the early 1970s. These steps are represented in a cyclical model – and actually should be represented in a continuous spiral – because learning and experience never cease (Smith, 2010). Learning can begin at any one of the four points in the model, however, Kolb and Fry, suggest it often does begin with a particular action and the observed effect of the action in that situation (Smith, 2010) or a 'Concrete Experience'. The correlation between action and effect should be understood once this experience occurs. If so, this allows the person to learn they are able to anticipate an

identical or similar effect if the same action occurred under the same conditions in the future – 'Reflective Observation'. For example, a rock climber learns how to tie a clove hitch from a fellow climber (Concrete Experience) in order to anchor themselves at a belay station on a multi-pitch climb. In the future, the climber should be able to repeat the knot at other belay stations.
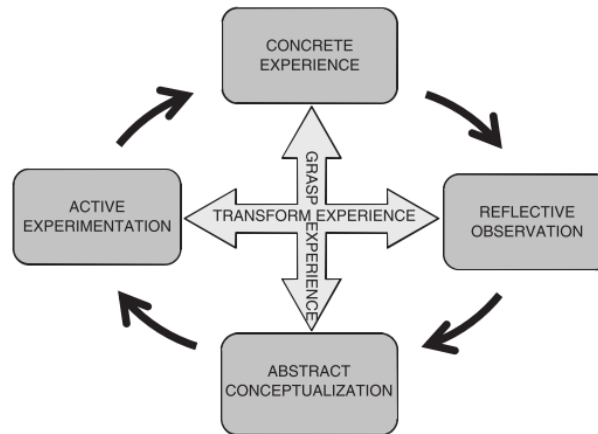
Figure 5. Experiential Learning Cycle, Structural Dimensions, & Resulting Basic Knowledge
       Forms (Kolb, 1984, p. 42)

The next step in the Kolb and Kolb's (2009) model of experiential learning (Abstract Conceptualization) is to comprehend the general concept learned during a particular situation. In the rock climbing example, the climber would understand why the clove hitch was a good knot for anchoring at a belay station – it is easy to tie with one hand and can be easily adjusted. Once this is realized, Active Experimentation occurs, where, in new circumstances and within a range of generalizations, the action is applied. The rock climber realizes that the clove hitch can also be used to anchor a boat to a mooring or hang bear bags on a camping trip. By learning a knot through experience, the climber is able to move through all the steps of the experiential learning cycle instead of attempting to learn a clove hitch by merely conceptualizing or imagining it from a lecture given by a teacher and reading about it in a textbook.

The benefits of ELT have been studied extensively, although the results can be difficult to quantify as many studies are conducted with a qualitative methodology. However, studies have shown that knowledge retention is elevated in student-centered models where experiential learning is utilized (Van Eynde & Spencer, 1988; Kendrick, 1996; Quesada-Pineda, Adams & Hammett, 2011). These same researchers have described approaches within the student-centered methods to include "active learning, cooperative learning, and inductive teaching and learning, all of which integrate knowledge into the students' learning process through students' critical thinking" (Quesada-Pineda et al., 2011, p. 181). Learning, as explored above, occurs from a four step process. Students in the 'traditional' classroom setting – where teachers lecture, design assignments, and grade standardized tests – are typically unable to complete the cycle to get

hands-on experience (Active Experimentation). Youth engagement programmes which integrate ELT engage students significantly better with increased levels of knowledge retention than those who learn in traditional lecture-based environments (Quesada-Pineda et al., 2011).

Youth engagement programmes have typically used these 'student-centered' teaching methods, including use of the ELT approach. Outdoor-based environmental education programmes such as Outward Bound and the National Outdoor Leadership School (NOLS) have been designed using similar principles of developing leadership and environmental awareness through challenging journeys of self-discovery and experiential education. They both indicate the importance of inspiring responsibility of nature through experiential learning in the wild outdoor classroom. There have been studies done by many researchers such as Goldenberg, McAvoy, and Klenosky (2005), and Goldenberg and Pronsolino (2008) which outline specific benefits of experiential learning. These benefits include, but are not limited to, improvements of awareness (of themselves and others), positive impacts on group dynamics and development, and increased self-efficacy. It can be correlated that gaining knowledge of these soft skills is not only beneficial during youth-based environmental engagement programmes, but can translate into everyday situations throughout one's life. Knowledge is gained in all aspects of life, making ELT a highly interdisciplinary and holistic theory among many fields of academic learning.

Once a youth is actively involved in and experiences successful environmental actions, it helps in building further opportunities for future actions. Dewey (1938) calls this situation the 'continuity of experience'. Experience and actions are closely linked and share a particular relationship because "without action competence, one cannot become rich in experiences, which in their turn can help to qualify action competence" (Jensen & Schnack, 1997, p. 166).

Action Competence

From the environmental education literature, Jensen and Schnack (1997) found youth have clearly stated they want to make an impact – they want to be involved – yet, many traditional, science-oriented environmental education programmes simply teach about the degrading scope of environmental problems, but not how to take action and make a difference (Jensen & Schnack, 1997). As mentioned above, this approach to environmental education has been seen to lead to eco-phobia and disengagement from environmental issues as students feel the weight of problems but feel they have no way to help fix them. To combat this 'doom and gloom' syndrome, youth must be supported in engaging in environmental initiatives they are passionate about and find relevant (Schusler & Krasny, 2010). As Barton & Tan (2010) point out, actions are taken by individuals or groups only when they think it is a good or moral choice. For real action competence to be achieved "an action must be targeted towards solutions of the problem that is being focused upon" (Jensen & Schnack, 1997, p. 168-9). In other words, environmental education needs to re-focus on what 'actions' can be taken by integrating real,

authentic projects into environmental education where clear, tangible and impactful actions are made. This is the basis of action competence.

Bjarne Bruun Jensen and Karsten Schnack were the pioneers of the concept of 'action competence' in environmental education with their 1997 article, *The Action Competence Approach in Environmental Education*. Many countries, such as Denmark and New Zealand have started to incorporate this concept into their public school pedagogy (Breiting & Mogensen, 1999; Breiting & Janniche, 1994; Breiting, 1995; Eames, Law, Barker, Iles, McKenzie, Williams, et al., 2006; Jensen, 2004; Wilson-Hill, Law & Eames, 2008). Action competence consists of two components, "an analysis of the nature of environmental problems and an idea of education as something more than academic schooling or behaviour modification" (Jensen & Schnack, 1997, p. 163). When broken down into the basics, 'action' must take into account constructs of behaviour, activities, movements and habits, as well as actions. Jensen and Schnack (1997) put forth that there are similarities between all of these constructs, but the difference is that actions are done consciously and with intention; the action has been fully considered and targets certain solutions for a problem at hand (p. 165-169). The purpose of action competence then within youth-based environmental engagement programs is therefore not necessarily to focus solely on creating a tangible environmental outcome, but to also provide opportunities to "make present and future citizens capable of acting" (Jensen & Schnack, 1997) through skill-building and hands-on experiential learning and cultivating ownership – the passion – within youth through eco-literacy and meaningful engagement activities. The term 'competence' means the participant is not only able and qualified to take action, but is willing; the participant must make decision to take action, either alone or with others. People must be able to envision alternatives and then act accordingly.

Further to this, Jensen and Schnack (1997) have identified two main types of action: direct and in-direct. Direct actions, also known as 'transformative actions', contribute directly towards solving the targeted environmental problem. This means working directly on the interface between people and the environment being affected. For example, a direct action would be a beach clean up or an invasive species elimination project. However, direct actions commonly consist of a series of indirect actions. Indirect actions, also known as 'educative', are those which are done to influence others into making choices and contributions which solve a targeted environmental issue, in other words, teaching or motivating people to change how they think about the present environmental issues. This could take the form of environmental education within the school system, providing positive nature experiences in early childhood to cultivate a sense of stewardship, an environmentally-focused protest, or a public release of research on a local environmental issue. Both direct and indirect actions aid in prescribing society to question critically but fairly, the ways in which they interact with the environment and then oblige an action to take place in response to the answers found (Breiting & Mogensen, 1999). Developing this type of critical questioning through a reflective and participatory

approach supports developing adults in overcoming the previously mentioned anxiety and 'doom and gloom' which can accompany some forms of environmental education.

Previous research on youth engagement programmes has found that, without a component of action competence increased environmental awareness occurs at the individual level but typically no actual actions result. Hickman (2012) points out that building both action competence and incorporating experiential learning into a youth-based environmental engagement programme is essential for it to be successful and thus no impact occurs to alter the culture of sustainability at a societal or system level. The development of ecological literacy and skills, such as critical thinking and decision-making through experiential methods, aids simultaneously in the development of action competence. These two developments can lead to improvements of environmental conditions and supports the growth of youth to become empowered active ecological citizens through authentic engagement and ownership in the current environmental issues (see Hart, 1997; Jensen & Schnack, 1997; McClaren & Hammond, 2005; Stapp, Wals, & Stankorb, 1996; Schusler & Krasny, 2010; Riemer et al., 2013; Schusler et al. 2009; Hungerford and Volk, 1990; Stern 2000).

It is with insight from the theories of active involvement in decision-making, experiential learning, and action competence that this thesis will critically evaluate the proposed YEEP framework.

Youth Engagement Models: Finding the YEEP Framework

Previous models proposed by researchers such as Pancer et al.'s (2002) *Youth Engagement Framework*, Rose-Krasnor's (2009) *Youth Engagement Framework*, and HeartWood's (2008) *Circle of Awesomeness* (**Figure 2**, p. 7) provide an excellent structure for the working elements of how best to engage youth, but do not supply a systematic process for the actual design or assessment of youth-based environmental engagement programmes. By taking into account the best practices for youth engagement and this thesis' previous exploration of the three main concepts (active involvement, education, and action), the five-part Youth-based Environmental Engagement Programme (YEEP) model (see **Figure 3**, p. 10) and a more detailed Development and Evaluation Table (**Appendix A**, p. 98) is proposed as a systematic framework which will "guide the development and evaluation of programmes" (p. 3). These five parts are as follows: (a) Activity, (b) Engagement, (c) Initiating & Sustaining Factors, (d) Mediators & Moderators, and (e) Outcomes.

The following paragraphs present the different framework components of the YEEP model in light of theories just discussed and the context of other literature in the programme design, environmental education, and youth engagement fields.

Activity

Riemer et al. (2013) assert that – regardless of the theme – the *activity* (or the organizations' foci) of any programme follows three standard dimensions: the *objectives*, the *structure*, and the *quality*. From an organizational standpoint, this makes sense. In the beginning stages of programme design, developers must define the scope (Peterson, Cummings, & Carpenter, 2003) and decide what the aims of the programme will be – will the activity "focus on actions that address an environmental problem by directly engaging with the environment" (Riemer et al., 2013, p. 8) (direct, "transformative" actions) or engage participants in an activity which influences other people to change in a social and/or environmental context (in-direct, "educative" actions)? It should be noted here that there is no explicit call in the framework for the activities to produce concrete environmental outcomes. This will be discussed in detail later.

Secondly, the YEEP model asks how the programme will be structured in order to attract and motivate youth to take an interest – through short, intensive activities or prolonged programming. There are many different ways to structure the activity of a programme depending on the organizations goals, the density of the activity, and the leadership type of engagement. The degree to which the objectives and the structure incorporate the core values and best practices of youth engagement will determine the degrees of success the organization has.

Finally, the organization should consider what role youth will have within the leadership structure; from non-participatory 'Manipulation' to active involvement 'Child-Initiated, Shared Decisions with Adults'. HeartWood (2008) and MacKinnon, Pitre and Watling (2007) voice support for programmes which include youth as engaged participants and indicate that these types of programmes are more likely to induce feelings of motivation and deeper active involvement in the activity.

However, revisiting the theory of social learning, it should be noted that decision-making is only successful if the decisions lead to action (either direct or indirect), otherwise the programme has failed to achieve action competence and the learning experience from the activities are also limited. There must be the three essential components (active involvement, education and action) to support action competence and active ecological citizenship. Riemer et al. (2013) outlines five environmental actions that youth-based environmental engagement programmes typically focus on:

- *Physical environmental improvements* (e.g. restoring natural habitats).
- *Community education* (e.g. organizing community festivals and information fairs; producing educational media like newsletters, brochures or videos).
- *Inquiry* (e.g. community assessments, surveys and mapping; environmental monitoring; scientific experiments designed to inform or evaluate action).

- *Public issue analysis and advocacy for policy change* (e.g. researching and analysing the environmental impacts of on-site wastewater treatment regulations and presenting policy recommendations to a state legislative committee).
- *Products or services contributing to community development* (e.g. sustainably growing food for sale at a neighbourhood farmers market and distribution to a local food pantry)

It should be noted that although these environmental actions are outlined, the YEEP framework does not explicitly require youth-based environmental programming to result in concrete environmental outcomes. This will be discussed in detail in the results section.

Engagement

Engagement practices have been well documented by many different sectors, including the UN, governmental organizations, universities, and non-profit organizations. Many existing models depict core values, tools and success indicators which youth engagement programmes can practice. Though many of the principles remain parallel to previous literature, Riemer Riemer et al. (2013) have taken elements from many sources and presented the best practices from each for this model's engagement component.

The YEEP model considers the factor of *intensity*: the amount of time and commitment a youth will spend on the activity in order for it to be successful. Busseri, Rose-Krasnor, Willoughby, and Chalmers (2006) and Rose-Krasnor (2009) both present *intensity* as a key element for engagement since it takes into account the level of engagement the programme asks of the youth and whether the youth should be participating, learning or acting (affective, cognitive, behavioural) during the engagement period (p. 10). There are many levels of engagement in which youth can commit to, and as seen in previous discussions, Roger Hart's 'Ladder of Participation' (**Figure 4**, p. 15) reflects similar concepts of the 'intensity' factor.

Similarly, the *'breadth'* factor from the YEEP model is comparable to HeartWood's 'Adventuresome Learning' where youth are challenged to "take safe risks through different learning experiences" (HeartWood, 2012, p. 4). Riemer et al. (2013) note that "the diversity of different activities youth are involved in, is just as important – if not more important for positive youth development as the frequency of activities" (p. 10). The research of Busseri et. al. (2006) found that breadth is "a critical aspect of youth activity involvement [which has] strong[er] associations with subjective well-being and self-perceived health" (p. 1322). Additionally, breadth allows youth to gain a wide range of skills, interests, and values.

Finally, the *'duration'* of the engagement can be evaluated based upon not only the activities length of time, but at the consistency with which youth are engaged over that time. The design of a youth engagement activity should find a balance in between (a) the desirable

programme length for effective results, and (b) the expected length of time youth will retain motivation for being involved. Some engagement activities are, by design, a quick time-frame (e.g. a weekend conference), others, however, may take years to complete. The duration of a project should take into account the complexity of the goals to ensure youth have time to feel they have participated fully in the experience and accomplished some sort of impact.

Initiating and Sustaining Factors

The YEEP model's '*Initiating and Sustaining Factors'* component represents factors which motivate youth to become engaged and then sustain that engagement through individual, social and systemic levels. This component of the YEEP model brings in elements from different models (such as Rose-Krasnor's (2009) three ecological levels), but also proposes a new aspect. While previous models have included initiating and sustaining factors, Riemer et al. (2013) have proposed the importance of "consider[ing] both facilitating factors as well as barriers" (p. 11). Designing or assessing a programme requires analysis of short-comings and obstacles to the end-goal. Therefore, inclusion of barriers allows the YEEP model to reflect how practitioners and researchers develop and assess programmes in real-life scenarios. Here are some examples of initiating and sustaining factors presented by Riemer et al. (2013):

Individual: "Personal, religious, and moral values as well as the perceived instrumentality of the engagement" (p. 11) and positive or negative experiences of nature.

Social: Education, income levels, supportive social milieu, similarly aged role models, and supportive environmental programming.

System: "Requirements by schools or governments for volunteer services... [and] participation in environmental organizations" (p. 11-12).

Barriers: "Lack of time, being asked to do work on unpleasant tasks, an unfriendly environment, not seeing an impact of one's engagement, lack of relevance of the issue the activity addresses to the youth (p. 11).

Mediators and Moderators

While there is limited empirical research, many researchers support careful consideration of mediating and moderating factors which "facilitate, interfere with, or interact in some other way with the engagement process and its outcomes" (Riemer et al., 2013, p. 12). As Bennett (2000) explains, mediators and moderators are a third variable that alters the relationship between the independent variable and its outcome variable. The differences between the two are often confused, but are in fact simple to understand; mediators are predicted by the independent variable and are typically an internal property of the subject being studied (e.g. intensity, breadth, and duration of engagement) while moderators are separate independent variables external to the subject being studied (Bennett, 2000, p. 416-7) (e.g. "youth's emotionality, activity level, agreeableness, self-regulation and communication abilities" [Riemer et al., 2013, p. 12]).

It stands to reason a diversity of mediating and moderating factors will impact each programme activity differently depending upon all of the previously outlined components of 'Activity', 'Engagement', and 'Initiating and Sustaining Factors'. Ultimately though, MacKinnon et al. (2007) caution that programmes should take into account the targeted youth population and its unique mediating and moderating factors.

Outcomes

There is extensive literature in the environmental, youth engagement, social development, and civic engagement fields which have contributed to this section of the YEEP model.   Organized into individual, social, system, and environmental levels, the 'Outcome' section is concerned with factors contributing to potential outcomes and impacts of an activity. Interestingly, while 'environmental outcomes' are listed in the model there are no explicit requirements (just a description of "assumed or real positive impacts" [Riemer, et al., 2013]) for youth-based environmental engagement programmes to develop or evaluate this as a quality indicator. When looking at the YEEP model from an action competence perspective, it seems an essential component is missing; that a meaningful concrete action results and is assessed for (Jensen & Schnack, 1997, p. 173). This will be discussed more in the following chapters. It is important to note, however, that these outcomes are highly dependent upon each unique programme and the specific elements individual programmes choose for the previously discussed design components. Here are some examples of outcomes presented by Riemer et al. (2013):

<u>Individual:</u>	Youth who participate in high-level engagement activities "tend to be linked to lower level of negative behaviours…school success, feeling of self-worth and a sense of social commitment and responsibility" (p. 12).
<u>Social:</u>	Youth who are engaged tend to develop more "important social skills and satisfying personal relationships" (p. 12).
<u>System:</u>	Youth who engage at a young age have been found to have more "civic engagement…value others more in their behavioural choices and tend to care more about environmental problems, favor environmental protection over economic growth and engage in more pro-environmental behaviours" (p. 18).
<u>Environmental:</u>	Programmes which focus on environmental activities tend to have assumed or real positive impacts on the environment. This can be in the amount of rain water collected for a community garden or the amount of carbon dioxide saved from reducing energy consumption.

Summary

Youth become engaged in an activity when there are affective, cognitive and behavioural elements (Riemer et al., 2013). This section proposes these three elements parallel the concepts of active involvement, education, and action. While involvement was once understood by the different rungs of the 'Ladder of Participation' (Arnstein, 1969; Hart, 1992), a new paradigm shift has been introduced in the form of the 'social learning' theory. Social learning allows for more complexity and non-linear accounts of interactions on the individual, social and systemic levels. However, while social learning empowers youth to become actively involved and participatory stakeholders, Hart (1992) emphasizes the importance of education in order to be able to engage confidently and act competently. Kolb's (1984) Experiential Learning Cycle theory is offered as a framework for practitioners and researchers to develop and assess educational aspects of youth engagement programming. Research has shown that youth passionately desire to make an impact, yet feel they don't know how to take meaningful action. Jensen and Schnack (1997) and Kozak and Elliot (2011) have done extensive research on the value of action competence in environmental education and what it entails. With the combination of these three concepts, the theoretical background can be summarized in the following statement: once youth are accepted as participatory decision-makers and have garnered skills and ecological literacy knowledge through hands-on experiential learning, they will feel confident in taking environmental action and feel empowered as active ecological citizens.

Finally, this section seeks to find a framework which incorporates these three concepts and offers practitioners and researchers a model under which youth-based environmental engagement programmes can be developed and assessed. Riemer et al.'s (2013) Youth-based Environmental Engagement Programme (YEEP) model is presented and recommended as a starting point. The next section provides an overview of an organization which has utilized the YEEP model as a framework for developing and implementing a pilot programme in Halifax, Nova Scotia, Canada.

Chapter 3: YOUTH ENVIRONMENTAL ENGAGEMENT IN HALIFAX, NS

"The youth of Halifax Regional Municipality have many talents and great enthusiasm which they generously contribute to shaping our community. We are committed to enabling our young people to express themselves and fully participate in the 'big ideas' and decisions which will sustain and build the future we share."
(Mayor Peter Kelly, HRM, 2006)

Halifax Regional Municipality

The area of primary research resides within the Halifax Regional Municipality (HRM) of Nova Scotia, Canada. This region is 5,490 km², 165 km in length between its eastern and western-most extremities, and its northern boundary ranges from 50–60 km inland. The population of the HRM is 413,700 and is one of the geographically largest municipalities east of Quebec City (Statistics Canada, 2013). With six different geographic regions within the HRM, there is an extensive range of industries. In general, the large government and military presence, and the port of Halifax and its related spin-offs are the largest contributors to the HRM economy. Industries in the rural HRM are mainly involved with extensive agricultural lands, fishing, mining, forestry, and natural gas extraction economies.

In this resource-rich and industry-driven province, there has been strong interest in environmental youth engagement in initiatives around the HRM and in youths' active involvement in governance. The HRM's Recreation, Tourism and Culture (RTC) – Community Recreation Services envision a healthy, sustainable and thriving community which is founded upon active engagement (Hirtle & Ure, 2006). In collaboration with HeartWood Centre for Community Youth Development (HeartWood), RTC has already begun establishing youth as contributing decision-makers with the development of the Youth Engagement Strategy (YES).

HeartWood is an organization which works with youth and adults to create positive community change through understanding the characteristics and needs of a community in order to affect sustained outcomes. They also do consultations with Nova Scotian organizations and the government to help provide leadership training programmes to youth, school programmes, and professional development workshops and services to adults. This work targets the development of youth engagement policies and strategies within Nova Scotia. By working directly with youth and using an integrated and participatory approach, HeartWood focuses on capacity building, professional development and research in meaningfully engaging young people in their communities.

Yet, even with this well-known youth engagement centre, there are still limited options for youth to engage in environmental initiatives, especially opportunities where youth can influence the direction of the initiatives based on personal interests. After doing an extensive search of environmental organizations based in Halifax only two environmentally-based opportunities for youth were found: The Adventure Earth Centre and Clean Nova Scotia's 'Nova Scotia Youth Conservation Corps'. Neither of these opportunities provide youth with participatory decision-making power to influence the direction of the organization or the programming. Yet, the development of the Halifax Youth Engagement Strategy calls for increased youth involvement in decision-making in the HRM.

Halifax Youth Engagement Strategy (YES)

In 2000, the Halifax Regional Council expressed interest in addressing the issues youth face in their communities in an attempt to improve their quality of life. In response, the HRM's Recreation, Tourism and Culture (RTC) – Community Recreation Services began working with HeartWood and the HRM youth in 2004 to create a strategy to proactively and creatively engage young people. A literature review of youth engagement in governance strategies and best practices was conducted during this process and youth were consulted in order to ensure their specific needs were addressed. The resulting document was used as a guide to create the final YES (Hirtle & Ure, 2006).

The YES set out to increase engagement of "youth and communities in the development and delivery of RTC programmes and services" (Hirtle & Ure, 2006, p. 3) and make a more youth friendly HRM through various new initiatives. Throughout community dialogue sessions, asset mapping, surveys, and interviews, over 6,100 youth continually expressed that they "need to be involved, and want to be involved, in the process" (Hirtle and Ure, 2006, p. 3). Therefore, for the YES to succeed, youth should no longer be excluded from community decision-making and planning toward the HRM's vision.

Many themes emerged and eight strategic directions were identified. First, support for youth requires RTC to make organizational changes, enabling the development of strategies to build relationships with and engage youth in the HRM regions. Second, youth identified affordable, safe and welcoming facilities and neighbourhoods where they could hang out with friends during unstructured time as important. Some of these facilities already exist, while others need to be upgraded or built. Third, creation of opportunities and programmes which support music, culture and arts alongside the prevalent sports programmes was identified as a need. Communication and effective advertising of community events and services was the fourth strategic direction. Youth indicated that schools, flyers, word of mouth and the internet are the best places to place the communications and advertising. The fifth strategic direction was

leadership development through youth involvement and leadership by organizing community events and contributing to improvements of the neighbourhoods. Youth also wanted the opportunity to express their ideas and have them taken seriously as participatory members of governance. Seventh, The HRM should be partnering with organizations and other regions and sharing resources to meet the needs of young people. Finally, community events bring people of the region together and youth should contribute to organizing these events.

To achieve these strategic directions, the RTC and HeartWood built a framework of six different strategies (Hirtle & Ure, 2006,). First, a needs assessment helped identify research and consultation using surveys, focus groups, interviews and a participatory action approach. This multi-stakeholder process allowed youth to help guide the planning and delivery of RTC youth services and recommendations to the city council. Secondly, as part of the participatory action approach, youth should share in decision-making and have a 25% representation presence on municipal and organization boards of directors. Third, youth advisory councils are also a way for youth to represent, advocate, gain a sense of ownership with consistent adult mentorship, and have specific roles and responsibilities in the community. The fourth strategy is local action projects which aim to create a local change to benefit the community. These can be youth-identified initiatives and typically are hands-on, action-oriented with direct and tangible results. This strategy embodies many of the key concepts which were discussed in the above theoretical chapter. The fifth way for youth to get involved is for an adult-led organization or municipal department to deliver and support a youth-run programme, for example the EAC's delivery of YAC: ATACC. The youth create the focus of the programme and aid in reaching the objectives. Finally, on a larger scale, youth-run organizations have the capacity for far-reaching positive effects in a community. With youth-run organizations, youth are the founders and directors, with total governance and decision-making power (e.g. SYC). However, most times, an adult-support member or a housing organization (e.g. SCC) aids with raising funds, developing budgets and sustains the continuity through turnover periods. (Hirtle & Ure, 2006; Garrison, 2005)

From the YES, a common theme emerged: a need to shift from conventional programming and the service delivery approach to a model which focuses on youth as participatory consultants and decision makers. The HRM community is using the YES to formalize and institutionalize "youth representation for input and decision-making" (Hirtle and Ure, 2006, p. 34). The opportunity is there for this thesis to address the HRM's goal through the development of the EAC pilot programme.

Ecology Action Centre

The Ecology Action Centre (EAC) was developed in 1971 from a Living Ecology course at Dalhousie University to promote recycling in Halifax. It has since strived to work with the local, regional and national – and more recently, international – levels to "build a healthier and

more sustainable world" (Ecology Action Centre, n.d, para. 1). With an office located in downtown Halifax, all work done by this Non-Governmental Organization (NGO) is connected to Nova Scotia communities. The EAC strives to provide the Nova Scotia community with up-to-date environmental information, pursue researched solutions, and act as Nova Scotia's environmental watch-dog. The Centre has developed seven different focus areas within the organization, including Built Environment, Marine Issues, Coastal Issues, Wilderness, Food, Transportation and Energy Issues.

With membership exceeding 3000, over 300 volunteers coming and going on a regular basis, and staff growing beyond 40 full- and part-time employees, the EAC has developed country-wide recognition (EAC, 08-09 Report, 2009) for its dedication to environmental activism, improvement of citizenship and community affairs, and received the national Arthur Kroeger College Award for Public Affairs in 2009. Not only does the EAC work at an official policy level with the government attempting to change policies to protect the environment, it also works at a community level educating about environmental issues and engaging in environmental initiatives.

In November 2013, Joanna Bull and Emily LeGrand – two staff members of the EAC – were contemplating strategies to deal with emails and phone calls from young people who desired to contribute in some way, but were unable to due to a lack of support and structure at the EAC. With a multitude of different projects and an ever-fluctuating staff, the EAC found young volunteers were difficult to coordinate with any success. With this need in mind, Joanna and Emily conceptualized a programme where young people would be able to contribute and make meaningful changes to Nova Scotia's environmental issues. Emily related that many staff at the Ecology Action Centre build their projects around the environmental needs in Nova Scotia and by looking at their own interests and skill sets to determine where best to focus their initiatives (LeGrand, focus group #1, Feb 19, 2014). From this perspective and the highlighted importance of youth engagement and decision-making in quality YEEP programs, this was the start of development for what turned into a pilot programme called YAC: ATACC – or the Youth Action Club: Adventure Training and Creating Coolness.

The Story of the EAC's Youth Action Club

I approached the EAC because I wanted an organization to partner with and help to create a youth-based environmental engagement programme through my thesis research. Meeting with Joanna Bull and Emily LeGrand, we discussed the needs of the EAC and determined it was important to conduct a comprehensive needs assessment to identify the needs of all stakeholders involved (target audience, the EAC organization, and my thesis research) and the resources available to support the programme and its objectives (Hiebert, Collins & Robinson, 2001; Berberet, 2006; Franz, 2009; Thomson & Hoffman, 2003). Through a multi-stakeholder process

using a series of two focus groups and two key pre-programme interviews, we consulted the target audience and their parents to determine the programme's objectives and structure which would best accomplish everyone's needs. The unfortunate thing was however, that none of the youth who had previously contacted the EAC looking for volunteer opportunities actually attended the focus groups. The youth who attended were recruited through attending a homeschooling-based science fair (hosted by the *Helping Encouraging Mentoring Serving* (HEMS) organization – a group which supports homeschooling families to meet and to share experiences and resources), circulating emails containing information about the focus groups through the EAC's volunteer mail-list, and contacting all youth-engagement organizations in the HRM to outreach through their networks.

With home- and public-school youth, ages 10-15, the focus group sessions led to the identification of the initial end-goal: a community 'Eco-Challenge' event where different stations, run by YAC: ATACC participants, educated the general public (in-direct, "educative" action) about environmental issues (e.g. active transportation, up-cycling, etc.). However barriers, mediators, and moderators emerged during the program, including a heavy emphasis on youth decision-making and a downward participant age shift, which affected the way the end outcomes took formation. Achieving the initial environmentally focused, action-based end-goal took the backseat as facilitators cultivated leadership and decision-making skills through allowing youth the autonomy to dictate the direction in which the programme proceeded. While the 'Eco-Challenge' did not occur, YAC: ATACC participants led the group in producing a focus on fun, nature-appreciation-based activities, such as fort-building, up-cycling arts and crafts, learning about biking as a form of active transportation, and leave-no-trace nature exploration.

Although there were, on some levels, failure to meet the needs of all stakeholders – especially that of engaging youth who wanted to volunteer in EAC projects – the programme was able to engage participants in environmental education activities (see **Table 1**, p. 43) while generating excitement about knowledge, supporting fulfillment of curiosity, and, finally, it aided in developing a sense of ownership – of stewardship – for the environment. It should be noted that the limitations and barriers to this process – both particular to unique circumstances and based on the quality of the design process – will be discussed and analyzed to inform the YEEP model later on in this paper.

Summary

The youth population in Halifax, Nova Scotia have expressed a strong desire to be involved in the process of community initiatives. While programmes specific to the HRM do exist, there are only two environmentally focused organizations which, unfortunately, have not

provided for youth to be participatory decision-makers.   A Youth Engagement Strategy (YES), which was informed directly by the youth and communities of the HRM, has been designed in order to address youths' concerns regarding exclusion from community decision-making and planning toward HRM's vision. With the new strategic direction, HRM communities now have the toolkit to shift from conventional programming towards institutionalizing intergenerational partnerships.

The Ecology Action Centre has stepped up to the leading edge of this paradigm shift with the launch of a pilot youth action club, YAC: ATACC. This new programme was aimed at empowering youth decision-making in order to address the recognized need for youth engagement in the HRM and, in particular, at the Ecology Action Centre.   The programme facilitators were able to support youth in influencing the direction of activities and build end outcomes based upon the participants' interests and previous experiences. Yet the successfulness of the programme to address the needs of all stakeholders, achieve environmental outcomes, and produce action competence was affected. Through careful examination of the design process and by listening to the voices of the YAC: ATACC participants this thesis can provide support and modifications to the YEEP model which are reflective of real-life applications of programming.

Chapter 4: METHODOLOGY

Introduction to Methods

The primary function of this research is to support a movement towards a new culture of sustainability by learning how best to design youth-based environmental engagement programmes using a participatory decision-making model and the YEEP framework (Riemer et al., 2013). The research in this thesis utilizes a multi-methods qualitative approach to ensure the reliability, validity and generalizability of the findings and limit the possibility of researcher or theoretical biases influencing the development of best practices or possible casual relationships. The outcomes from this research were generated through a combination of past literature and the collected primary and secondary data. Many alterations occurred along the road to the final research design of this thesis. This section outlines these pathways and describes how the above qualitative methods were utilized to answer the research questions and achieve the objectives.

This research grew through an organically emergent design process as the literature review led towards the development of the final research questions and objectives. After receiving approval from the Ethics Board, I was able to collect complex primary data concerning the experiences, values, and opinions of youth participants and facilitators during two focus groups at the Ecology Action Centre, participant and facilitator observation, individual interviews with key participants and facilitators of YAC: ATACC, and two case studies of successful youth engagement organizations in Canada. The multi-method approach provided opportunity for triangulated results which created data that were well-supported and can be more appealing to a broader audience (McAllister, 2011).

Focus groups were used to create a youth-based environmental engagement programme designed using a 'by-youth-for-youth' ideology. The main goal was to address the youth engagement needs of the EAC, identify what activity interests the youth of the HRM had, and also provide data to inform the research of this thesis. Participant and facilitator observation was used to provide contextual information from the focus groups and subsequent YAC: ATACC sessions. Further, it aided to inform the design of the interview questions and uncover behaviour the participants weren't always fully aware of. In-depth interviews were used to allow youth to voice their thoughts, perspectives, and opinions by reflecting upon the programme design and delivery process and uncover what youth felt was important in a 'by-youth-for-youth' framework. Finally, case studies, including literature reviews and key person interviews, of the Sierra Youth Coalition and Reduce the Juice organizations were employed to determine how the initial design process supported each organization in its continued success. The qualitative data from these methods was interpreted in order to analyze different components of designing youth-based environmental engagement programmes and compile a modified nine-step YEEP model

(see page 61) and a 'Guideline of Best Practices: Development and Evaluation Table' (see page 62).

The following sections outline what was involved in this qualitative research approach, including the three above mentioned methods and the intended outcomes for each step. Looking step-by-step at the path this research took, it is possible to see how it utilized youth voices and employed a qualitative research design to compile a list of best practices for design of youth-based environmental engagement programmes.

Methodological Framework

The Methodological Framework (**Figure 5**, p. 19) visually demonstrates the complexity of interactions between the different methods employed to collect data. Research was accomplished through a two-stream process, whereby cross analysis of primary and secondary data produced a comprehensive understanding of best practices and an evaluation of the YEEP model could be conducted.

Steps 1 determined the scope and established the foundational research needs, goals, and objectives. Through a comprehensive search for gaps in the environmental education and youth engagement literature (Step 1 & 2 in **Figure 5**, p. 19) – across multiple disciplines – the goal for creating a culture of sustainability and active ecological citizenship became apparent. To accomplish this, the need was identified for a method to help developers, practitioners, and researchers who were promoting a culture of sustainability to understand how best to design youth-based environmental engagement programme. Even with increasingly popular involvement of youth in decision-making and planning processes, no broad-spanning best practices framework has been developed for programmes which follow the 'for youth, by youth' ideology. This thesis narrows the scope even further, highlighting Riemer et al.'s (2013) YEEP model as a framework for these best practices.

Step 2 worked to collect pre-existing data through a literature review. To create a detailed picture of what had already been done, material pertaining to environmental education, youth engagement, programme design, and learning approaches was reviewed.

Step 3 and 4 focused directly on development of the YAC: ATACC at the Ecology Action Centre as a primary data collection case study of real-life application using the YEEP framework. The unique perspectives on what was important in a youth-based environmental engagement programme were gathered from youth participants, parents, and programme designers and facilitators. In the same time-frame, Step 5 involved further case studies on two of Canada's successful youth-based environmental engagement organizations: Sierra Youth Coalition and Reduce the Juice. Key aspects and necessary components of best practices for the

design of thriving programmes were identified through document analysis and key player interviews.

Goal:

Establish a framework using best practices and critical criteria which reflects the real-life application of development of resilient non-formal youth-based environmental engagement programmes

1. Identify Research Rationale & Objectives
(a) Identify and analyze theory of youth engagement and environmental education
(b) Document real-life application of YEEP model program design
(c) Case study successful organizations' youth-based environmental engagement programmes
(d) Analyze & modify YEEP model to reflect best practices in real-life application

2. Theoretical Background:
- Participation
- Education
- Action Competence
- YEEP framework

3. Establish EAC's Youth Pilot Program
- Focus Groups
  - Establish youth participatory decision-making
  - Decide group interests
  - Determine program initiative focus & objectives
  - Discuss what activities will accomplish end goals
- YAC: ATACC
  - 11 sessions

CROSS ANALYSIS

4. Primary Data Collection:
- Facilitators
  - Planning meetings
  - Observational data
- Participants
  - Pre- & post-interviews

5. Case Study Data Collection:
- Reduce the Juice & Sierra Youth Coalition
  - Interviews with Execs
  - Document Analysis

6. **Results & Recommendations**
- Modified YEEP Model
- Guideline of Best Practices: Development and Evaluation Table

7. Future Research Needs

Figure 6. Methodological Framework

During the cross-analysis of the three organizations, commonalities and discrepancies in the data were identified and modifications to the YEEP model were suggested to better represent real-life applications of the framework (Step 6). Finally, from the cross-analysis, recommendations were compiled for future research needs (Step 8) in order to further solidify the findings of this thesis.

Qualitative Research Approach

At the beginning of this research, it became apparent that a qualitative research approach would produce the strongest results and supporting data. A qualitative research approach is a branch off of scientific research, but focuses on the social perspective. It aims to produce understanding of "culturally specific information about the values, opinions, behaviors, and social contexts of particular populations" (Mack, Woodsong, MacQueen, Guest, Namey, 2005, p. 1) – in this case, youth. Qualitative data is generally collected in the form of words, rather than numbers and typically allows participants the freedom to respond in-depth to data collection methods instead of choosing from fixed responses or close-ended questions, as happens in quantitative research. Researchers are able to encourage elaboration and adjust engagement strategies with each participant depending upon individual personalities or styles. This type of research approach can lead to a rich and complex data collection and, in this thesis, gave insight into how best to design a programme where youth had decision-making power and would empower them to be fully engaged in environmental change initiatives. Different strategies will be examined in each of the following qualitative method sub-sections.

Diversity of Research Methods

Qualitative research, although namely a social sciences approach, must be based pre-eminently on reliable and rigorous scientific collection and analysis (Chawla, 2006). Having used a diversity of methods types for this thesis, it is important to understand the intertwining benefits of a multi-method approach. This research made extensive use of a number of different qualitative data collection tools, including: literature reviews, focus groups, observations, in-depth interviews, and case studies. By employing multiple sources of data (see **Figure 6**, p. 36), it was possible to conduct triangulation of data during the analysis stage and uncover facts which may not have been otherwise comprehended; both of which boost the validity of the findings.

Triangulation, as an analysis tool, allows the researcher to use several observations in order to decrease error and provide more accurate and generalizable results (Bechhofer & Paterson, 2000; Jawhary, 2010). Ravenswood (2011) and Crowe et al. (2011) point out that triangulation of data increases the internal validity because findings from numerous sources

create a holistic picture of an event or phenomenon. Every research project should be seen as an integrated whole, where each component influences another (Bachman & Schutt, 2015). Therefore, when multiple sources lead to the same outcomes there is an underlying assumption that the findings support the legitimacy of the hypotheses and constructs.

Analysis of Data

This thesis utilizes the sections from Riemer et al.'s (2013) YEEP model (*Activity, Engagement, Initiating and Sustaining Factors, Mediators and Moderators*, and *Outcomes*) to provide a common organizing framework from which to cross analyze and infer accurate and precise information from the multiple research collection methods and data sources. The raw data is presented in tables throughout the paper (**Table 1-12**) as a visual summary from the literature reviews, focus groups, observations, semi-structured interviews, and case studies of the Sierra Youth Coalition, Reduce the Juice, and YAC: ATACC.

During the analysis procedure, when data is being cross analyzed and results are founded, it is of key importance to limit error and researcher biases. Therefore, this section also outlines the credibility and limitations in order to ensure transparency and the validity of results.

Procedure

The analysis of data aimed at finding answers to the Research Questions:

- "What are the best practices and critical elements which support existing, successful youth-based environmental engagement programmes?"

- "Does the Youth-Based Environmental Engagement Programme (YEEP) model (Riemer et al., 2013) correctly represent real-life application of best practices of non-formal youth-based environmental engagement programme design?"

Thus, two perspectives were taken into account when analysis was being conducted in order to (1) deduce the best practices and critical elements of youth-engagement in environmental programming, and (2) compare these best practices and critical elements to the proposed YEEP model. To complete this cross-analysis, the data from all different sources of collection were thoroughly reviewed. Pertinent information concerning the development of programmes, how the organization was structured, how youth were engaged, how engagement was sustained, what barriers arose and how they were overcome, and what youth engagement and environmental education outcomes occurred was filtered into the YEEP model sections to enable cross-analysis. This material was arranged into a series of tables for visual ease of analysis and in order to display information concisely to the reader.

Cross-analysis involved examination of similarities and inconsistencies within each section between data from YAC: ATACC, SYC, and RTJ. Similarities and discrepancies were noted and each was compared to the YEEP model. Where discrepancies were found, the literature review was consulted and justifications were explored in order to inform and propose possible alterations to the YEEP model. It must be noted that certain limitations are present and may play a role in causing these discrepancies. Therefore, the next section of this chapter explores the credibility and limitations of this research in order to ensure transparency and exclude biases and false claims. This will also enable future research to delve into the areas of the limitations and form a more detailed picture where gaps still exist.

Limitations

With any research it is critical to acknowledge the credibility and limitations of the data and results. This not only provides transparency and engenders confidence in the research, but also allows future researchers to realize areas where research gaps still exist, and avoid pitfalls which have previously been experienced by past researchers. This section outlines two main sections of this thesis where limitations could occur: (1) Chosen Organizations, (2) Methodological Impacts.

I.   *Chosen Organizations*

First, the programmes offered by the SYC, RTJ, and YAC: ATACC were diverse and targeted a wide variety of age ranges. SYC builds its youth engagement with youth ages 15-30, however its primary focus is on the Sustainable Campuses programme for university and college aged students. Alternatively, RTJ is solely a high school based programme with a single focus on energy efficiency initiatives. YAC: ATACC is a programme which was offered to a broad range of youth ages 8-18 with an emphasis on youth-led activities that ended up centring on nature exploration.

This range of programming and target audiences is a both a limitation and a credibility. By using case studies which are varied there is a possibility results contain anomalies or outlier data since no replications were conducted. However, variation also allows the research to extrapolate results representative of best practices and critical elements applicable to the broad field of youth engagement programme design. This is of value to this thesis since the YEEP model is a broad "framework that can be used as a guide…by practitioners and researchers in the development and assessment of non-formal youth-based environmental engagement activities" (Riemer et al., 2013, p. 6, 19). Even so, there would be value in continued research following the methodology of this paper in order to further gather supportive findings for the results of this thesis. Future research recommendations will be made in the final chapter to develop priorities for research and identify gaps that still exist.

Second, it is important to note that there may be limitations which affect the results due to the current hiatus of the RTJ organization. As mentioned briefly at the end of this chapter, RTJ is presently not providing any programming within schools or communities due to a brief pause in order to evaluate the structure of their organization and for their executive director, Sara Wicks, to complete her graduate research. There are possible repercussions in choosing an organization that is currently not delivering programmes since information concerning best practices and critical elements for building quality youth-based environmental engagement programmes could be outdated as RTJ programming has not run since 2011. However, the choice of including RTJ as a key case study is justified as it meets the three criteria by which the case studies were chosen: (1) founded by youth in order to address a youth-based social concern, (2) been successfully impacting changes Canada-wide for over 9 years and as long as 16 years, and (3) youth participatory decision-making has been integrated into every organization's structure in the form of either a young leader in the executive director position, a youth board of executives, or a youth-led project initiatives structure. Of equal importance, RTJ had easily accessible information through extensive documentation of their programming and there were pre-existing professional networking between Jennifer Lynes (thesis supervisor) and RTJ's executive director and founder.

II.   *Methodological Impacts*

There are two key points of limitation within this section: (1) alterations during data collection, and (2) second-hand data collection methods. The first point is of key importance as many alterations occurred on the original research design as it grew organically into the final product presented here. It is noted here in order for readers to be aware of and give room for discussion and future strengthening of this research methodology as there is minor concern of indeterminate impact on results due to this emergent design process. The methodology has, however, been clearly outlined in order for full transparency on exactly how this research was conducted and justifications have been made to explain why any major alterations occurred.

The second methodological impact occurred due to the inability of this researcher to attend the YAC: ATACC activity sessions and collect firsthand observational data. Therefore, there is reliance upon second-hand details from Emily LeGrand who facilitated these sessions and relayed key information directly following each session for in-depth documentation. The sessions were also documented by photography and written blogs which can be found on the Ecology Action website (https://www.ecologyaction.ca/yacataccblog). Key interviews also followed two prominent participants of YAC: ATACC through their journey of this programme. Consistent questions were asked of both participants at strategic times before and after the programme in order to gain insight into what youth need in order to initiate and sustain engagement. Finally, although constant attention was given to the development of the YAC: ATACC, certain circumstantial factors and barriers caused a change in the end-goals resulting in

a youth-based environmental programme which produced no concrete environmental level direct or indirect action outcomes. These factors and barriers are discussed later in this chapter.

Ethical Considerations

I received ethics approval from the Office of Research Ethics (ORE) at the University of Waterloo. There were minimal risks anticipated, either psychological or physical, to participants or facilitators who chose to participate in this research. Prior to the focus group sessions, an ethics briefing was conducted and, after providing a copy of the Information Letter, Informed Consent and Assent, forms were signed by participants and parents who would be partaking in the study (see **Appendix B** on page 103 for all ORE forms). Facilitators were asked to sign a Confidentiality Agreement and data was de-identified in order to protect the youth involved. Only Professor Jennifer Lynes and I had access to any materials which resulted from this study. All consent forms and other paper documents were stored in a locked filing cabinet and electronic files were saved on a password encrypted locked computer.

Primary Data Collection Methods

I.   Focus Group

First used as early as the 1940's, focus groups have become an increasingly popular method of qualitative data collection in social science research (Sim, 1998; George, 2012). Defined by Krueger and Casey (2009), focus groups are a "carefully planned series of discussions designed to obtain perceptions on a defined area of interest in a permissive, non-threatening environment" (p. 2).   Initial meetings with the Ecology Action Centre revealed an opportunity to utilize this prevalent method in order to design YAC: ATACC through the 'by-youth-for-youth' ideology. Once the Office of Research Ethics at the University of Waterloo approved the research, youth were recruited and the scope of YAC: ATACC took shape through two youth-based focus groups.

Research has shown that the ideal focus group size ranges from seven to ten participants (Krueger, 1988; Linville et al., 2003; Smithson, 2008; Krueger & Casey, 2009). This group size allows everyone space to share their thoughts and present a diversity of perspectives. The YAC: ATACC focus groups were attended by ten youth on February 19th, 2014 and seven of the same youth on February 26th, 2014, which created alignment with the researched ideal group size. As is typical of most focus groups, two facilitators were present at the YAC: ATACC sessions; I oversaw the audio-recording device(s) and took observational notes while Emily LeGrand, who had extensive experience leading and moderating youth engagement groups, led the session and guided discussions (Patton & Cochran, 2002). Although facilitators are present to guide and

manage the focus group, they must be extremely careful about how they influence the direction of discussion. Facilitators must judge when to direct the discussion and when to step back and let participants naturally move the conversation forward by sharing their own ideas and opinions (Gill, Stewart, Treasure & Chadwick, 2008; George, 2012; Morgan, 1996). As an adept facilitator, Emily was able to ask thought provoking questions which motivated youth-led discussions and decision-making and created an atmosphere where all participants were able to contribute. The objective of the two sessions was to establish the schedule; i.e. how the programme should be run (length, location, time of each meeting), what environmental initiative focus the programme should have; what activities should occur to accomplish the chosen end-goals and objectives, how long the programme should run for, etc.

Often times a focus group is used in place of one-to-one interviews in hopes that the group dynamic will help participants explore and clarify ideas as they interact, query, and explain between themselves. Through group discussions and a number of thought-provoking activities the focus group participants explored common environmental interests and concerns. Collectively, over the course of the two sessions, the youth built a rough picture of what YAC: ATACC would ideally look like within the bare-bone parameters (see **Appendix C**, p. 117) determined by the aforementioned EAC team. These parameters included: (a) using the city as the learning and doing space (i.e. not simply learning and doing indoors at the EAC), (b) engagement in anything environmentally related to create a meaningful action (i.e. encourage thinking broadly and creatively within the environmental discipline), (c) include a wide age range of 8-18 years old and support mentorship and interactions between people of different ages, and, (d) meet for two hours each week.

As Kitzinger (1995) points out, "when group dynamics work well the participants work alongside the researcher, taking the research in new and often unexpected directions" (p. 299). As common youth-identified themes emerged, one ever-present idea was to educate other youth and the HRM public on environmental issues (see **Appendix C**, p. 117). The group quickly realized there was a way to merge all the different interests and ideas generated into an 'Eco-Challenge' event for the HRM public to complete where different 'challenge stations' would represent the youths' themes of interest. The Eco-Challenge was determined to be an excellent way to engage the public in environmental education, as well as for the YAC: ATACC group to learn personal ways of being active ecological citizens during the weekly sessions and incorporate the other themes of interest.

To achieve this goal, YAC: ATACC met every Wednesday evening for two hours to engage in numerous activities (see **Table 1**, p. 43). Each activity was pre-determined by the youth during previous sessions, including a visit to Mountain Equipment Co-op to learn simple techniques of how to fix and maintain bikes; learning about bicycle generated light bulbs at the Discovery Centre; learning how to take 'junk' and up-cycle it to a usable and useful item, be it

art, a tool, or toy; bike repair and forest play at Point Pleasant Park; fort building and compass skills; and many more. The participants gradually shifted focus from the broad initial "Eco-Challenge event" end-goal to a more narrow focus on "Outdoor Nature Adventure". This end-outcome evolved into a showcase for parents, family and friends of the participants to share the fort-building and nature exploration adventures which had taken place in Point Pleasant Park. The new goal became an introduction for youth of the Halifax community to the joys of nature play through a fort building and orienteering skills 'workshop', with active transportation possibilities between the fort sites.

Date	Location	Activity
March 19, 2014	Mountain Equipment Co-op	Personal Bike Maintenance 100
April 2, 2014	Discovery Centre	Exploring Bike-Generated Power
April 9, 2014	Johanna B. Oosterveld Centre	Up-Cycling: the art of repurposing
April 16, 2014	Victoria Park & Point Pleasant Park	Exploring Halifax's Public Resources & Spaces
April 30, 2014	Point Pleasant Park	Nature Play, Woods Navigation, & Fort Building
May 7, 2014	Point Pleasant Park	Fort Building
May 14, 2014	Ecology Action Centre	Arts & Crafts: Natural Material Poster Making
May 21, 2014	Point Pleasant Park	Active Transportation & Youth-led Games
May 28, 2014	Point Pleasant Park	Youth-led Games and Woods Exploration
June 4, 2014	Point Pleasant Park	Final Fort-Building & Prep for Showcase
June 7, 2014	Point Pleasant Park	Showcase to Halifax Community

Table 1. YAC: ATACC Sessions Overview

Through the progression of the program sessions the age range slowly decreased as new, younger youth entered the group and older participants did not return. As with many youth initiatives, there was some turn-over in the group, however, some attributing factors to this situation included (a) a lack of time, and (b) a lack of relevance of the issue the activity addresses, which were common youth-engagement barriers identified by Riemer et al. (2013). As one youth pointed out, "there's not much point in getting involved if you don't know what you are doing it for or if you don't really care about it" (Participant #1, personal communications, June 23, 2014). The lack of relevance may have stemmed from this big mandate shift as newer, younger youth began to attend. The older youth who had shaped the original focus through the focus groups may have felt the change was irrelevant to their interests and did not align with the issue(s) which initially brought them to the group. This was further emphasized by the acknowledgement that the older youth had really wanted to do a project with solar panels, but in the end, both the older and younger youth agreed the shift to a more nature-based appreciation focus was a positive one (Participant #1, personal communications, June 23, 2014). The activities produced (predicted and unpredicted) individual, social, environmental and system outcomes (**Table 2**, p. 44). Further discussion of this will be presented in the results section.

Activity	Outcomes
Personal Bike Maintenance 100	- Active involvement in discussions - Hands-on experience - Basic bike maintenance skills
Exploring Bike-Generated Power	- Educational presentation - Engagement with a hands-on display - Awareness of alternative power generation & complexities of the system - Refinement on program end goals
Up-Cycling: The art of repurposing	- Innovative & creative thinking - Awareness of personal waste & reusing materials for a new function - Hands-on experience - Tangible takeaway item
Exploring Halifax's Public Resources & Spaces	- Awareness of HRM support for active transportation (bike repair stand in Victoria Park) - Hands-on experience applying basic bike maintenance skills learned in first session - Gain confidence riding bikes in Halifax - Ownership and empowerment by youth-led games and exploration in natural spaces (Point Pleasant Park)
Nature Play, Woods Navigation, & Fort Building	- Woods Navigation & Wilderness safety awareness - Communication through participatory discussion - Teamwork, consensus building, & establishing group norms - Awareness of Leave No Trace values
Fort Building	- Awareness of Leave No Trace - Teamwork & Creative Thinking - Wilderness risk management awareness
Arts & Crafts: Natural Material Poster Making	- Creative and critical thinking - Homemade posters (natural materials to make stamps) - Participatory decision making & Teamwork - Education on cold-frames and winter gardening - Mentorship (older and younger youth)
Active Transportation & Youth-led Games	- Awareness and skill building of active transportation (bike safety, pedestrian awareness, and biking etiquette) - Ownership and empowerment by youth-led games and exploration in natural spaces (Point Pleasant Park) - Communication skills & Teamwork - Mentorship (older and younger youth) - Leadership
Youth-led Games and Woods Exploration	- Ownership and empowerment by youth-led games and exploration in natural spaces (Point Pleasant Park)
Final Fort-Building & Prep for Showcase	- Communication Skills & Participatory decision making - Leadership - Navigational skills - Ownership and empowerment by youth-led games and exploration in natural spaces (Point Pleasant Park)
Showcase to Halifax Community	- Public speaking/Communication skills - Teaching skills & Critical thinking - Navigational skills - Ownership and empowerment by youth-led games and exploration in natural spaces (Point Pleasant Park)

Table 2. Outcomes from YAC: ATACC Sessions

Research has shown that youth value the discussion-based structure of focus groups because they tend to allow open, value-based, validating, and motivating discussion (Dittmer & Riemer, 2010). Focus groups were used in this research because extensive amounts of information could be collected from many participants in a short period of time (Krueger, 1988; Linville et al., 2003) and it was a valuable method of observing the interactions between the participants; especially in evaluating the evolution of YAC: ATACC as the sessions progressed (Soklaridis, 2009). Audio recordings from the two focus groups were transcribed and analyzed for key aspects the youth identified to incorporate into the design framework of the programme. These were then cross analyzed with data from observations, interviews, and the case studies in order to ensure validity and reliability.

II. Observations

Observation is a valuable qualitative method used to explore natural participant perspectives and behaviour through unobtrusive means of surveillance. Mack et al. (2005) describe it as trying to understand the perspective of an insider, yet remaining an outsider. As the secondary facilitator for the YAC: ATACC focus groups and the sole interviewer of the in-depth interviews, I was able to take descriptive notes which were useful for noting non-verbal interactions (which audio-recorders cannot capture) (Sim, J., 1998), understanding the complexities and impacts of the situation (including the effect of the environment, for example cold/heat or bugs), and determining any "discrepancies between what people say and what they actually do" (Patton & Cochran, 2002, p. 20). Further, this observational data was used during the analysis stage to provide additional validity and comprehensiveness to the results (Jawhary, 2010). At the end of both focus group sessions, my co-facilitator and I analyzed the discussions, group interactions, and outcomes produced from the session.

Valuable observations also took place during each YAC: ATACC session. The sessions provided an important opportunity to evaluate the benefits and limitations of the focus group process as well as determine what key aspects of the programme design worked to engage youth and which needed to be revised. Although unable to attend the YAC: ATACC sessions, Emily related the happenings to me each week. These observations produced two sorts of data; personal notes used solely for thesis research and weekly public blogs, posted up to the EAC website (https://www.ecologyaction.ca/YACATACC). The public blogs allowed parents to read about the adventures their youth were having and acted as a marketing tool to promote the club and bring new participants to the sessions. The blogs also serve as a foundation to inform potential future programme facilitators of what activities were successful and what new initiatives could be incorporated into the sessions.

III.   Semi-Structured Interviews

Interviews are used to help researchers understand the social phenomena surrounding the research question(s) through the experiences and knowledge of individual people. Unlike regular social conversations, interviews are shaped by the facilitator and the success is based upon their management skills and question design. A useful tool, interviews can flesh out details from a questionnaire, gather information from experts in the field of research, or discover information which is important to the participant, but may not have been considered pertinent by the researcher. However, a main challenge of the interview method is developing the right questions in order to extract the precise data needed, while ensuring no leading or biasing questions are asked.

Informed by literature by Bob Price (2002), Michael Quinn Patton and Michael Cochran (2002), Family Health International (2008), Gill et al. (2008), interview questions (**Appendix C**, p. 117) were developed in order to inform the research questions of this thesis and achieve more complete details to complement other data collection methods. Developing the right questions allowed me to gain pertinent and truthful accounts of experiences or opinions from the participants. As Patton and Cochran (2001) indicate, spending time developing interview questions and practicing how you ask them can "make a large difference to the information you are given" (p. 13).

During the YAC: ATACC focus groups, two key participants were identified (through facilitator observation) for in-depth analysis (see **Table 3**, p. 47*)* based on the following criteria: (a) attendance at both focus group sessions, (b) attendance at a majority of YAC: ATACC sessions, (c) willingness and parental consent to be interviewed directly after the focus groups and upon completion of the YAC: ATACC pilot programme. Interviews were audio-recorded and observational data was noted (as indicated in the above sub-section). The first round of interviews were designed to (a) create a baseline understanding of previous experiences the participants had with environmental activities and youth engagement programmes, (b) determine what skills they thought were important to develop in order to make a difference and be able to confidently engage in environmental activities and actions within their communities, and (c) understand participants' previous experiences with and current thoughts about participatory decision-making and active ecological citizenship.

The second round of interviews were designed in order to determine (a) how being part of the initial design process had impacted the decision to attend the majority of the YAC: ATACC sessions, (b) the benefits and limitations of participatory decision-making within the YAC: ATACC structure, (c) what aspects of YAC: ATACC had succeeded/needed improvement in order to sustain engagement in the programme, (d) if thoughts and perspectives about participatory decision-making and active ecological citizenship had been impacted through experiences as a YAC: ATACC-er.

Date	Event
December-February	Planning Meetings w/ EAC staff & Facilitators
February 19, 2014	Focus Group (session #1)
February 26, 2014	Focus Group (session #2)
March 7, 2014	Interview (participant #1)
March 18, 2014	Interview (participant #2)
March 19- June 7, 2014	Programme Sessions & Observational Data Collection
June 23, 2014	Interview (participant #1)
June 25, 2014	Interview (participant #2)

Table 3. Timeline of YAC: ATACC Data Collection

The data from the interviews were cross-analyzed with results from the focus groups and programme sessions in order to assess the quality of the YAC: ATACC programme and what aspects would constitute 'best practices' of youth-based environmental engagement.

Summary

Thus far, this chapter has introduced the multi-method qualitative approach with which data has been gathered. Exploring the diversity of data collection methods used for this research provided important insight into the complexity of this topic. During the primary data collection of the YAC: ATACC case study, using focus groups, observations, and semi-structured interviews created a holistic picture of the exact thoughts, needs, and growth occurring throughout the pilot programme.

In the next part of the chapter, secondary data collection methods continue to add detail to the composition of critical elements and best practices for designing and assessing youth-based environmental engagement programmes.

Case Studies

While focus groups and individual interviews provide important opinion and experience-based information, secondary data collection methods such as case studies are extremely useful in exploring, explaining, and describing the everyday contexts and casual links and pathways of events or phenomena (Crowe et al., 2011). As an extensively used social sciences research method, Crowe et al. (2011) describes case studies as a way to "generate an in-depth, multi-faceted understanding of a complex issue in its real-life context" (p. 1).

Researchers must choose between the single or multiple case approach (Yin, 2003) based upon what best supports their research framework and the resources and time available.

Although a multiple-method process can expedite the data collection and facilitate triangulation of data, volume of data can overwhelm the researcher and impact the depth of analysis possible, especially with time restricted research. Crowe et al. (2011) cautions a lack of rigorous analysis of data could cause a limited basis for generalization of findings. Therefore, theoretical sampling, respondent validation and transparency throughout the research process are critical. Eisenhardt (1989) and Crowe et al. (2011) outline the standard process of case study research, indicating the crucial steps as defining the research question, selecting the case(s), data collection and analysis using multiple data collection methods, interpreting the data by building internal validity, and sharpening generalizability, and, finally, reporting the findings of the research process.

Taking these aspects into account, two additional case studies were selected based on a few criteria. The Sierra Youth Coalition (SYC) and Reduce the Juice (RTJ) organizations were both founded by youth to address a youth-based social concern. Each organization has been successfully impacting changes Canada-wide for over 9 years and as long as 16 years using youth participatory decision-making as an integrated component of the organizational structure in the form of either a young leader in the executive director position, a youth board of executives, or a youth-led project initiatives structure. Finally, due to the large number of youth-led social enterprises, these two cases were chosen due to the accessibility of data and the personal connections my thesis supervisor and I had with key people within the organizations.

Data collection occurred through both primary and secondary means. The latter assessed literature, including website content, annual reports, project reports, and articles about the organizations from other researchers, while primary research was done through audio-recorded telephone interviews (see **Appendix C**, p. 117). Interestingly, all four of the interviewees had personal experience in many roles of their respective organizations which enabled them to relate insightful perspectives as programme participants, environmental youth engagement designers and practitioners, researchers, and evaluators. SYC interviews were done with founder and past executive director, Amelia Clarke, and current executive director, Gabriela Rappell who had also been a youth participant in SYC programming and had been on staff at various points with the organization. RTJ interviews were done with one of the founders, past executive director, and current board of directors' member, Theresa Sauren, and current executive director, Sara Wicks who had started as a programme team leader and then become the RTJ's programme manager.

The semi-structured interview questions were designed with the objective of understanding the historical development of the organizational structure, the design of its youth-based environmental engagement programmes, and what those organizations had found over the years (by trial and error and research) to be best practices for engaging youth in their activities. In addition, interviewees were asked to explain if and how their organization utilised (or did not) each component of the YEEP framework. Finally, they were invited to suggest modifications to

the YEEP model in order to make it more applicable to real-life programming. Similarities between the cases confirmed findings, while disparities and contradictions led to "a deeper questioning of the data" (Ravenswood, 2011, p. 681).

I.   Sierra Youth Coalition

Organization Overview

Founded in 1996 by Amelia Clarke, the Sierra Youth Coalition (SYC) was the only national youth-led environmental group of its time. As a sub-section of the Sierra Club of Canada (SCC), it supplies a network for young people, ages 15-30, and youth organizations using solutions and activist based foci. With an Executive Committee all under the age of 30, the SYC organization has really succeeded in allowing youth to shape the direction and organizational governance through participatory decision-making processes. Primarily focussed in high schools, universities and colleges, SYC aims to educate, challenge, and advocate for youth in pressing environmental issues nation-wide using outreach techniques such as the Community Youth Action Gatherings and the Sustainable High Schools project for high school students, as well as national and international awareness campaigns and major conferences and summits. One of the most successful initiatives has been the Sustainable Campuses Project which supports student-led work towards "social equity, ecological integrity and economic prosperity" at campuses nation-wide.

The following subsections outline how SYC fits into and challenges the YEEP framework using the Sustainable Campuses Project as an example of their philosophy on youth-engagement best practices.

Activity

The Sustainable Campuses Project is SYC's longest standing programme which works to improve campus sustainability and engage students in becoming leaders of sustainability on their campuses.   The programme supplies platforms for campaigns such as *Bottled Water Free Campuses, Residences Durables,* and *The National Student Food Network.* Additionally, SYC holds weekend conferences to train participants and build capacity to lead their own successful initiatives on their campuses and supports on-campus student research to build action plans and sustainability strategies. Running for sixteen years, the structure of the programme allows for many different engagement points, including as a national or regional volunteer coordinator, SYC network staff or intern, or as an individual campus student participant or researcher. During an interview, the SYC Executive Director, Gabriela Rappell, outlined the quality indicators of successes this project has had. She pointed out the increasing number of schools involved and benchmarks these schools had achieved based on past performances and

comparative analysis against the Canadian averages, the attendance numbers at sustainable campuses conferences, and the increasing number of workshops on multi-stakeholder processes (Rappell, G., interview, July 4, 2014).

Engagement

University students are typically extremely busy, so, taking this into account, SYC offers a diversity of engagement opportunities. For example, a regional coordinator position offers a highly engaged opportunity on a daily basis doing conference calls, completing training in conflict management and how to facilitate workshops, while a campus sustainability club member may work on a weekly basis with monthly conference calls with their regional coordinator in order to organize events and gather information from the network. Other opportunities include attendance at weekend conferences, student research projects, sustainability audits of individual campuses, and writing campus sustainability policies or guides. The engagement duration for this project can range anywhere from simple attendance at a conference to the average one to two years, all the way up to the higher range of six years (Rappell, G., interview, July 4, 2014).

Initiating Factors

There are many initiating factors which may motivate an individual to participate in the SYC. Riemer et al. (2013) break these factors into subcategories, of which three were mentioned by Gabriela and Amelia; individual, social and system. Individual initiating factors range from simple attendance at a Sustainable Campuses conference or a personal desire to improve the environmental impact of their university to pre-existing personal concerns of environmental issues and are emotionally compelled to seek out organizations which support youth in environmental issues. Finally, some individuals may have interest in the SYC training opportunities or are already involved in the SYC or another environmental network.

Social motivations are also quite strong for initiating new members into the SYC. For example, it is very common for someone to indicate they got involved with SYC because their friends were attending an SYC event and they decided to tag along and check it out. Other social motivations pointed out to be typical initiating factors included friends who were already involved with the SYC or an SYC event which provides opportunities to meet other like-minded young people.

Two of the most significant initiating factors fell into the system category. Primarily, both interviewees highlighted the applied student research course credit opportunities; students completing their course credits by conducting environmental and youth engagement based projects on campus. It offers students the opportunity to not only complete a course, but also get hands-on experience and produce a real, tangible outcome from their projects. Secondly, SYC offers extensive training opportunities to their members, including, but not limited to, learning

and building the student food movement, and skills in climate justice anti-oppression, non-violent direct action, and creative and strategic social change. Training not only is a strong initiating factor for new members, but helps to sustain and provide personal growth to existing members.

Sustaining Factors

Retention of existing SYC members is just as important as initially gaining new members. The SYC offers ongoing training and support for all members through events, workshops, and paid opportunities as summer interns, full and part-time staff. Each success is celebrated, allowing individuals to feel they are contributing towards something important, rather than simply becoming another volunteer. Socially, the SYC is committed to a supportive, consensus-based and non-hierarchical organization where everyone's opinion is valued. Not only do these values help maintain a friendly atmosphere for everyone at events and in the office, but it supports new and existing members in working together to build community norms and forming a feeling of social cohesiveness. Systemically, the SYC "creates a network where people feel supported across a diverse group and engagement opportunities" (Rappell, G., interview, July 4, 2014). The youth themselves drive the infrastructure; if people weren't willing to take part in the events or the organization – stepping up as leaders – the whole SYC system would fail. One of the integral sustaining factors is the institutional support the SYC receives from the Sierra Club of Canada (SCC). As an embedded sub-chapter of the SCC, SYC has had continued support from funders and been able to rely upon the resilient structure and network which the SCC has already developed.

Mediators & Moderators

As a set of factors which "facilitate, interfere with, or interact" (Riemer et al., 2013, p. 19), Gabriela Rappell pointed out that this section is particularly integral to engage youth and produce tangible and impactful outcomes (interview, July 4, 2014). In the interview, Gabriella and Amelia both talked about the different factors that support and create barriers to the engagement process. The SYC mediating factors, as indicated by Gabriela and Amelia, include: applied student research, conferences and special events, and funding. One of the primary facilitating factors for SYC is the opportunity for students to do academically accredited projects they are passionate about, ultimately producing concrete changes at their campus. Secondly, the SYC conferences and special events bring new people into the network and help to re-energize previously engaged members through training opportunities and the chance to connect in-person with like-minded people. Finally, funding gives SYC the ability to support paid staff members and create a stronger network with people at different campuses.

Outcomes

There are many outcomes which have resulted from engagement opportunities at the SYC. Riemer et al. (2013) sub-categorize outcomes under *individual, social, system,* and

environmental. Individuals have reported that the SYC has played a significant role in building opportunities where strong facilitation and media skills, as well as development of policy can be experienced. SYC events and projects tend to be social, allowing individuals to develop social friendships, connections, and creative networks across the country.   By developing important personal skills, professional connections, and ability to work with a broad variety of people (multi-stakeholder process), the SYC has helped individuals to advance their careers and professional relationships. On a systemic level, this youth-based environmental engagement organization has succeeded in reaching and maintaining a strong youth member network across Canada. SYC has helped shape many young leaders in the Canadian society through training opportunities in multi-stakeholder work and by developing a deeper knowledge-base around the issues of sustainability. This training has helped to support the creation of dedicated staff sustainability positions on campuses, including sustainability officers and coordinators. Not only has the SYC measurably aided in lowering the environmental footprints on campuses across Canada, the organization has utilized the Association for Advancement in Sustainability in Higher Education (AASHE) and Sustainability Tracking, Assessment & Rating System (STARS) programmes – international standards for sustainability assessments – to help raise awareness and create university sustainability policies such as Leadership in Energy and Environmental Design (LEED) building standards and sustainable lab policies.

II.   Reduce the Juice

Organization Overview

Initiated in 2005 as a volunteer organization, Reduce the Juice (RTJ) has grown into a well-known and successful community- and environmental-based youth-led organization in southwestern Ontario. However, in the past two years, RTJ has taken a hiatus on running programmes due to the current Executive Director, Sara Wicks, returning to university and the organization's founder, Theresa Sauren, taking time to assess previous projects, discover if the organization's activities are still fulfilling a unique and identified need, and strengthen the activity structure in order to re-launch when Sara completes her studies.

Previously, RTJ focused on empowering youth as the agents of change for climate change mitigation initiatives within their schools and communities. Two programme opportunities existed for high-school students: (1) a summer community outreach programme and (2) an after-school youth action club. These two opportunities gave youth a hands-on, action-based project in transportation, water or energy conservation initiatives. For the purpose of this thesis, only the after-school youth action club will be explored. The summer programming is being excluded, first, because youth were hired and paid for their engagement and, secondly, the summer programme was primarily built upon the measurement of

environment-related behavior changes in the community rather than the youth-engagement aspects.

Although programming is not currently being delivered, relevant experiences from previous successful after-school RTJ projects have been found which strongly pertain and inform the thesis question, "What are the best practices and critical criteria which support existing, successful youth-based environmental engagement programmes?". Therefore, the following sub-sections explore the RTJ programming and organize the data under the YEEP model headings.

Activity

RTJ has been structured using a laddered approach with a strong consensus decision-making process from the Board of Directors all the way to the youth themselves. The Board of Directors set the target and framework for each new project, securing funding and taking on the role of mentorship for the programme coordinator (Sara Wicks). Throughout the school year, RTJ partnered with high school teams in order to complete renewable energy projects such as the Shelburne Green Power Project in 2005, the Orangeville Renewable Energy Trailer in 2006, the Waterloo PV Installation Project in 2010, and the Waterloo Green Bin Project in 2012, to name just a few. Sara worked with the teachers and staff at the chosen school to not only create awareness of energy consumption but also incorporate some aspect of the project into the regular curriculum and provide a hands-on learning opportunity. For example, the PV Installation Project in Waterloo creates data which, even currently, is collected and analyzed by students for classroom projects.

Teachers were integral to the structure of the programming; they facilitated the weekly meetings and supported the student-led projects. Part of this support was bringing in specialized volunteers to offer their expertise on aspects of the design and construction process. University students from The University of Waterloo also collaborated with the after-school students to mentor and ensure the design and construction of the projects were plausible and would succeed. However, the students held the majority of the responsibility and accountability for designing the method for completing the project, dividing up and then completing the tasks. The next sub-section offers more insight into the intensity, breadth and duration of these projects and how those aspects affected engagement.

The quality of these projects varied due to reasons such as length of the project, red-tape within the school system, and which schools were chosen to complete a project. The solar powered vehicle and the solar panels on the roof were extremely successful, but came with their own set of difficulties. The technology-based projects were not a 'quick and dirty' project; many times running multiple years. It was hard to keep students engaged over that length of time. They tended to already be engaged in other sports clubs or they graduated from high school or

they simply lost interest during the slow times when there was not enough support or immediate tasks to be done.

Engagement

There were steep learning curves experienced in regards to how best to initially engage and then retain the students for the club's projects. The engagement of youth in the RTJ after-school club fluctuated substantially within single projects and between different projects; one project initially started with 40 students and by the end had pared down to a solid 11 student core group! Sara and Theresa spoke to this fluctuation, attributing the differing levels of engagement to the intensity, diversity and duration of the project itself.   These attributions were given prior to introduction of the YEEP model, which further credits the reliability of the model.

During many projects, the timelines typically exceeded a year or even two from start to finish. Students usually met 1-3 hours once a week, but this was dependent upon the deadlines and tasks they had set for themselves. Both Sara and Theresa both indicated that, in general, projects where students achieved tangible, small achievements on a regular basis tended to maintain involvement, whereas, projects which took a longer time to obtain results saw major die off of interest within the student groups. Further to that, Sara explained how students who had weekly tasks to accomplish seemed to stay engaged, while others whose tasks either were completed quickly or didn't have a weekly to do list soon became disinterested. There was also the component of teacher support, which was integral since, many times, students needed to have access to computers, special welding or electrical equipment, or simply needed guidance in next steps. RTJ relied heavily on teacher interest and time, since everything was done on a volunteer basis.

The electric powered car was one of the most successful technology projects RTJ ran. It was a three year project where students were involved in the beginning planning stages, the research and design of the prototype, the conference and event presentations, the construction (including welding, woodworking, etc.), and the actual testing of the final product. Two people, in particular, were extraordinarily supportive and aided in making this project such a success. Ed, an engineer, and Arnie, the Shop teacher, showed up most days to give the students skill building activities and direction. Every other Friday, a professional welder also volunteered. The students became really excited about these skill building sessions because it enabled them to feel they were actually learning something and boosted their confidence in their abilities to contribute to the project. The importance of these sessions was highlighted when the club started losing members if they were simply doing theoretical or research-based work without the hands-on component for a number of weeks. The intensity of this project fluctuated depending upon the tasks, exam schedules, summer break, and if there was a deadline or event coming up. There were a lot of diverse tasks which students were able to take part in. They broke themselves into teams, such as the marketing team (logo, team t-shirts, tools for presentations, etc.), the research team, the woodworking shop and welding teams, 3D design and rendering team, and so on.

There were many little things students were able to keep busy with during the 'down times', including writing up applications to attend conferences, taking photos for marketing purposes, and writing up a description of the club for the year book.

One of the projects RTJ was challenged on and, therefore, learned a lot from was the installation of solar panels on the roof. It was a long technology-based project with sometimes limited tasks which required students to meet for only about one hour or so a month. As well, there were initial challenges getting meetings with the school board members and a lot of red tape in order to successfully design and install the panels. There were times when students from the club failed to show up at critical project discussion meetings with important board members. However, many of these meetings held complex, adult-level discussions (e.g. about RFP's and tendering documents) which, although extremely useful to learn about, students found it difficult to participate with and understand since there was a lot of abstraction.

Finally, there was a second type of school-based programme which was campaign-based. This anti-idling campaign project was run through a sustainable living 10th grade course at one of the high schools. For this course-credited project in partnership with RTJ, all the students from this class worked together as a team to design and launch an anti-idling campaign for an elementary school as one of their end projects. Students had a diversity of tasks from designing and posting flyers, doing all the research for the campaign, creating environmental and awareness messaging, learning the difference between engaging students versus parents, and gaining permission from principals and crossing guards. This project was based around the environmental objective of reducing idling times, however, there were many great life skills gained through this hands-on, experiential learning approach. The students had to work together on a skills-based project, and learn how to organize and run a mini-campaign.

During her interview, Sara stated that the ideal intensity and duration of a programme is highly dependent upon the age group of defined 'youth'. She has experienced that the older youth are, the longer programming can be. Best case, technology-based projects would run no longer than 8 months – that of the school year – and anti-idling campaigns 3-4 months, including the planning and debriefing phases. Dependent upon how big the project is, Sara suggested it could be broken down into smaller sections, with more short-term achievements (i.e. planning phase, design phase, getting the structural parts built, etc.). This way, there are possibilities for small celebrations along the way in order to show they have accomplished forward movement.

This leads into the next section where discussion will take place on how youth were initially interested in becoming involved with the RTJ after school club and then what factor sustained that engagement.

Initiating Factors

Sara identified a number of components which aided in initiating the engagement of students in the after school programmes. The technology-based projects initially had a high number of members. A number of students became involved because, not only was technology and engineering something they were already interested in, but they saw an opportunity to build their personal resume by gaining hands-on, skill-building experiences and working in collaboration with the UW engineering department. From a social standpoint, in order to entice students to remain after school and volunteer their time and effort, the projects needed to be seen as 'cool', meaningful and fun. Cliques of students joined because their friends were involved. Sara noticed that "if it was the 'cool kids' doing it, you'd have people there" (personal communication, July 23, 2014). The environmental programme and technology teachers were invaluable initial motivators as they raised awareness for the after school programme during class. Further to that, many teachers volunteered to teach skill-building necessary for completing the RTJ projects and became mentors for the students outside of organized class time. Sara indicated that teachers and students had a good working relationship, which motivated many students to continue being involved with the after school programme.

Systemically, there were times when the RTJ projects were linked directly into coursework; students got course credit for their work. Sara found that some students were reluctant at first when it was required coursework, but typically, they began to grow more enthusiastic as they saw progress and results appearing from their work. RTJ chose schools which already had facilities and resources available which were necessary for completing the projects. For example, a wood working shop with power tools, a drafting room with drafting computer programming, equipment for welding or electrical work, etc.

However, all of these factors simply initiated the student involvement. The next section identifies the integral factors which sustained involvement even through projects spanning many years.

Sustaining Factors

Once initial novelty of a project has worn off, there must be a reason for students to continue attending the sessions. These reasons become the sustaining factors and are integral for the continuity and success of a youth-based environmental engagement programme. With the RTJ projects, there were some key factors which aided in sustaining the youth's interest and maintaining their involvement. These are organized into the YEEP model's framework of *Individual, Social, and System* factors.

Individual factors were found to primarily involve personal development in the way of skill-building and seeing tangible progress as the projects moved forward. RTJ recognized that it was important for the morale and sustainability of a project to ensure and celebrate small wins

and successes frequently throughout each stage of the project. Not only did it reinforce for students that they were personally accomplishing something, it also showed there was forward progress due to all their hard work.   Students took responsibility for certain tasks, forming the notion of contributing to the 'team'. This notion supported the sustained active involvement of many students who, because they had responsibility, felt they were important and needed. The hands-on projects were designed to empower the youth to become agents of change at their schools. To complete the project, students had extensive training in skills, such as woodworking, electrical, designing, welding, etc. The students reported that these training sessions impacted their personal perspectives and created a behaviour change in their engagement levels because they were action-based rather than simply discussion-based. As an added bonus, RTJ was able to organize a tour at the engineering department of the University of Waterloo as part of the after-school programmes. This was exciting for many students since they had personal interests in pursuing engineering. The outing and the project itself provided opportunities not only to see where students could go with the skills they were building during the RTJ projects, but they also built their resume and gained reference letter opportunities.

On a social level, RTJ strongly advocated for building projects which were hands-on and maintained a focus on social-interaction versus web-based projects. This approach enabled students, staff and volunteers to sustain their engagement even after novelty wore off because social norms were formed within the group. Individuals had responsibilities which needed to be completed in order for the whole project to move forward. Accountability between team members reinforced the idea of each individual being important and needed; those who didn't show up to a meeting would have trouble from their peers at school the following day. The other necessary social component was the integral support system of volunteer school staff and skilled experts from the project field, including engineering students from the University of Waterloo. They built a mentorship platform which created strong, professional connections between them and the students, encouraging students to continue returning week after week. Of special note was Ed, the engineer, who spent an extraordinary amount of volunteer time teaching and working with the students to build the solar-paneled car.

At the system level, there were three main sustaining factors; required course credit, tangible, measured results from the projects, and the student-led approach. As mentioned briefly in the initiating factors, one project RTJ ran was integrated into class-based work in a Sustainable Living course where students were required to complete the class work; therefore, their involvement within the campaign-based project was sustained. Sara indicated however, that mandatory engagement is not a best-practice or strong factor over time. To illustrate this she told of one youth within this project who lost his volunteering timesheet multiple times and, instead of refuting that he had already completed his hours two-fold, happily continued to help out of his own volition.

There were also many tangible outcomes as projects progressed which helped sustain the engagement of the students. The results did two important things. Firstly, it provided support for the marketing of future projects; a critical factor in gaining traction and launching other projects at different schools. Secondly, and more relevant to this thesis, the results highlighted students' personal achievements.

Mediators & Moderators

RTJ facilitated many successful projects and produced tangible results which impacted the students and community. However, there were some very real mediating and moderating factors which Sara expressed influenced the drop-off rate and affected the sustained interest of many youth. The primary barrier was competing commitments; being involved in too many activities and having to choose between them. The schools which RTJ collaborated with had an extremely involved student body with individuals taking part in multiple extra-curricular activities already. RTJ had to compete with these previous commitments and, therefore, many times ended up with a much smaller core group than from the onset of the project.

Not only were there competing commitments, there were also substantial cycles of high-level activity and low-level activity which impacted the long-term engagement of students. Many times, students would rush to complete certain tasks for a conference or event, and then have a duration when minimal tasks needed doing. This created disengagement because students either lost interest in the down-time or became frustrated with the lack of consistency. Another source of frustration was the fine line leaders walked between dictating weekly tasks and providing enough direction for the youth to be able to make their own informed decisions. There were times (especially in the initial stages of a project) where youth were able to take lead in the initiatives. However, leaders quickly learned they needed to provide students with general directions in order to be able to complete tasks and gain confidence in their abilities. The most important message Sara had was to maintain sight of the bigger picture by celebrating small and tangible successes throughout the project and ensure students always have tasks they are working on or skills they are learning in order to sustain attention and prevent disengagement.

Outcomes

Reduce the Juice has supported many individual youth in gaining confidence, building knowledge and skills, cultivating motivation to try new things, and becoming more civically and politically active within environmental policy work. The students who were involved with the RTJ projects learned how to be more articulate and distill technological jargon, explaining and discussing complex concepts during presentations to the community and with the professionals at board meetings. Developing these social communication skills is invaluable in any career path, be it engineering, the trades, sciences or social studies, and the majority of students involved with RTJ projects have gone onto post-secondary educations with a focus on the environment, engineering, mechanical trades, or social justice.

One of the unforeseen outcomes of the RTJ solar car project was the strong mentorship environment which arose between older and younger students after the project was completed. The solar panel car was decommissioned and claimed by the older students in order to teach younger students how to up-cycle parts in order to build a recycled electric motorcycle. From an environmental perspective, the RTJ solar panel roof project is still producing energy for the school and classes are continuing to utilize data for teaching and analysis purposes. RTJ also created a hand-book for running further anti-idling campaigns based upon projects run within the course-based project which is available for future programming.

Summary

The second half of this chapter introduced two Canadian youth engagement organizations who have successfully facilitated youth-based environmental engagement programming for over nine years. The Sierra Youth Coalition's Sustainable Campuses initiative was chosen since it is the longest standing programme with a number of indicators of successful programming which this thesis can draw upon. Similarly, the after-school youth action club run by Reduce the Juice offered a rich wealth of relevant and informative data. Using pertinent documents and interviews with founding members and executive directors, findings were organized into YEEP model sections to enable ease of the cross-analysis and presentation of results in Chapter 5.

The following chapter presents the cross-analyzed results from YAC: ATACC, SYC and RTJ and correlates from those findings what best practices and critical elements should be taken into account when designing a youth-based environmental engagement programming.

Chapter 5: RESULTS & DISCUSSION

"When we did YAC: ATACC I felt that we are all citizens who live in our environment and we need to be actively engaged in helping it because if we leave it, it's going to affect us in our lives. Our food won't be the same, which will cause health problems and it's not going to look good and there's going to be lots of other problems.
I think it's important to be an active ecological citizen because of that."
(Participant #1, personal communications, June 23, 2014)

Introduction

In gathering, reviewing and assessing all research data a generalizable and methodical process emerged which lays out the steps of designing and evaluating a programme. Delving deeper within those steps, best practice which were particularly relevant to the youth-based environmental engagement field became apparent through literature reviews, focus groups, observations, interviews, and case studies. This chapter introduces a modified YEEP model (**Figure 7**, p. 69) and a correspondingly adapted nine-step 'Guideline of Best Practices: Development and Evaluation' Process (**Table 4**, p. 62) which aims at reflecting a representation of real-life processes. This new pragmatic model and step-by-step process use a feedback cycle which involves the following steps: (1) Needs Assessment; (2) Outline Engagement Programme/Activity; (3) Plan Engagement; (4) Identify Initiating and Sustaining Factors; (5) Assess Barriers & Planning Strategies; (6) Run Programme; (7) Mediators & Moderators; (8) Outcomes; and (9) Final Evaluation. Each step is explained and justified using research findings to ensure clarity and transparency on this new approach and the determined best practices.

The Modified Framework

This framework aims to aid organizations in developing successful youth-based environmental engagement programmes and thus this model logically begins by identifying the needs of all stakeholders through a systematic 'needs assessment'. As the model represents, the needs assessment is a continuous cycle which assesses, informs, monitors, and re-adjusts the components the design and delivery process. Once needs and priorities are established, developers should outline the engagement programme/activity through the dimensions of objectives and structure. The quality should be assessed based on best practices outlined in **Table 4** (p. 62). Planning Engagement comes next where a programme's intensity, breadth and duration are determined. Once again, the quality should be assessed to ensure successful design elements are being developed. The initiating and sustaining factors should be identified at this stage from the perspective of the individual, social, and system levels. Of key importance is the fifth step, assessing the barriers and planning corresponding strategies for the engagement of

participants in the future programme. Finally, it is time to run the programme. However, it is again of key importance to be aware of any mediating or moderating factors which may impact the engagement and programme outcomes. Once outcomes have been achieved, it is time for the final evaluation. This is a comprehensive gathering of all evaluation data (which should have been collected throughout the design and delivery) and condensation into a final report which can be disseminated to inform future programmes of the successes and area which need some improvements.
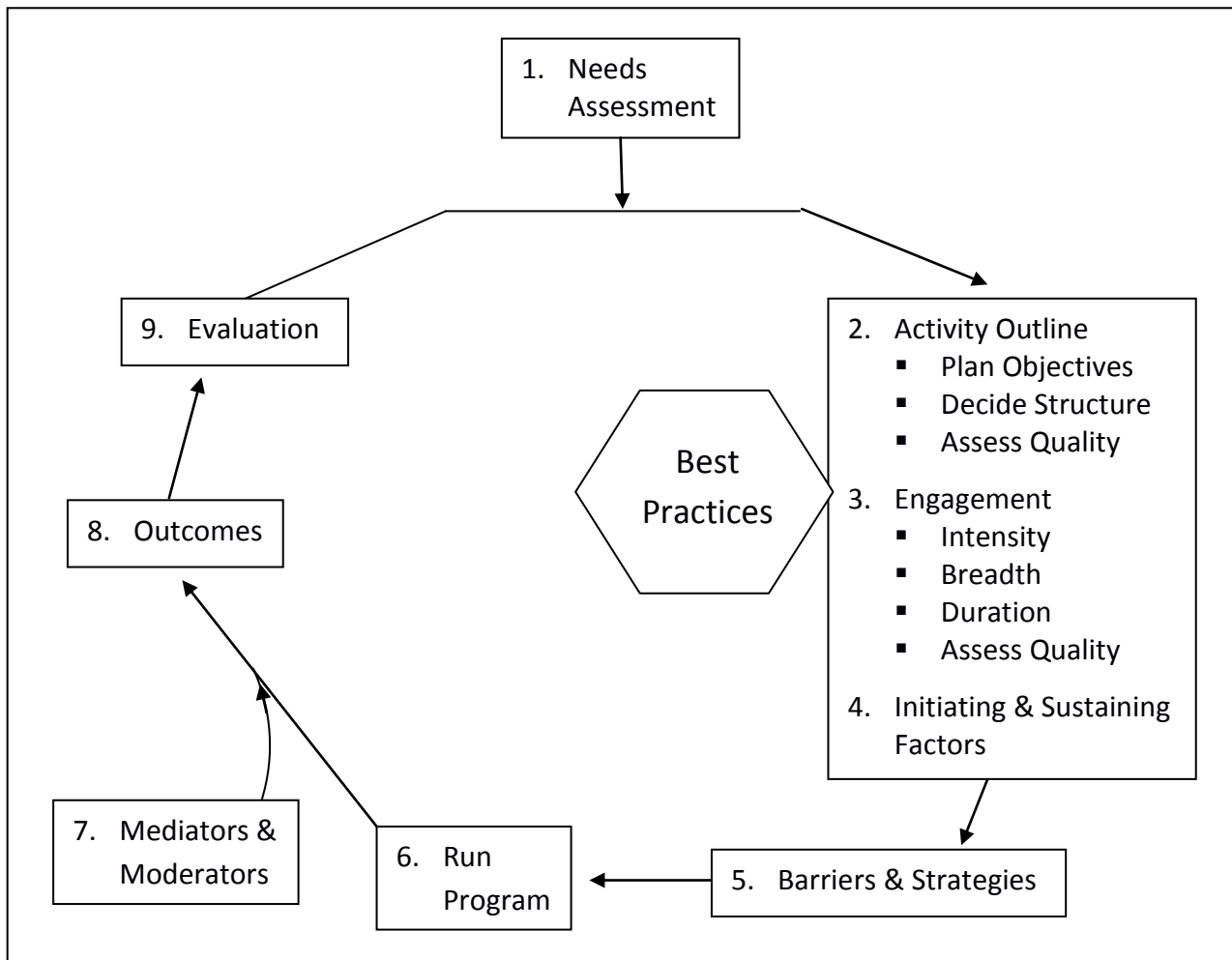
Figure 7. Modified YEEP Model

Framework Component	Description	Guideline of Best Practices: Considerations for Programme Development and Evaluation
1. *Needs Assessment**	Conduct a continuous cycle of assessing, monitoring, evaluating and adjusting to ensure programme stays on-track with all stakeholder needs.*	**Multi-stakeholder process*:** active engagement in this early process helps promote ownership of the programme, creates communication among all representatives, and supports a cost effective development of a quality programme (Marrs & Helge, 1978; Hiebert et al., 2001; Berberet, 2006) **Identify the Environmental Focus:** what are the environmental needs? ▪ "An action must be targeted towards solutions of the problem that is being focused upon" (Jensen & Schnack, 1997, p. 168-9). **Available Organizational Resources*:** geographical scope, the institutional structure, available funding, and marketing strategies
2. *Outline Engagement Programme/ Activity*	Outline the objectives and structure of the engagement programme/activity. Assess quality compared to best practices.	**Education & Action Competence Objectives**: building both action competence and incorporating experiential learning into a youth-based environmental engagement programme is essential for it to be successful (Hickman, 2012). Consider incorporating elements of hands-on activities, critical thinking skill-building, and teaching eco-literacy. **Direct "Transformative" or Indirect "Educative" Actions** ▪ Programmes should ensure objective includes an element of direct or indirect actions which produce an environmental change outcome which contributes to a more sustainable society* **Structure:** ▪ **Active Involvement versus Passive Participation** ▪ **Youth/Adult Partnerships**: Each person, young or aged, has unique beliefs, knowledge and concerns which will enrich a community and/or programme ▪ **Social Learning***: "jointly [look] for meaningful, supported and feasible solutions for challenges with respect to which no one has a monopoly on wisdom" (Wals et al., 2009, p. 5) ▪ **Density:** Consider offering many different engagement points through a range of activities or tasks within the project. This enables programmes to engage individuals regardless of time, availability, and interest constraints.
3. *Plan Engagement*	Plan the route by which the youth interact with the activity/programme. Engagement is described along three dimensions: *intensity, breadth*, and *duration*.	**Intensity**: Consider Roger Hart's "*Ladder of Participation*" **Breadth:** Ensure participants always have tasks to work on and/or skills to learn in order to sustain attention and prevent disengagement **Duration:** find a balance in between (a) the desirable programme length for effective results, and (b) the expected length of time youth will retain motivation for being involved. The older the youth are, the longer the programming can be* (Wicks, personal communications, July 23, 2014). Take into account the complexity of the goals to ensure youth have time to feel they

	Assess quality compared to best practices*	have participated fully in the experience and accomplished some sort of impact. **No 'right' way to engage youth**: each situation and target audience are different and each city, community, organization will approach issues in a unique way (Garrison, 2005)
4. *Identify Initiating and Sustaining Factors*	Identify youths' motivation(s) to become engaged and remain engaged from an individual, social, and system level	**Initiating:** ▪ Training and personal growth opportunities (education)* ▪ Pre-existing personal interest/concerns for environment and wanting to "make a difference" ▪ Friendly atmosphere ▪ Everyone's opinion is valued/Consensus Decision-making (active involvement)* ▪ Hands-on, skill building learning opportunities ▪ Activity/project already interested in ▪ Opportunity to build personal resume ▪ Mentorship possibilities ▪ Projects are seen as "cool", meaningful and fun* ▪ Raising awareness of the project: if the youth do not know about it, engagement cannot occur* ▪ Education and Income ▪ Mandatory engagement: Not a best-practice or a strong indicator for sustained engagement over time* **Sustaining:** ▪ Ongoing training and support for participants (education)* ▪ Participate in meaningful ways (active involvement)* ▪ Celebrate frequent goals and achievements to show accomplished forward movement (action competence)* ▪ Accomplish tangible and/or measureable impacts/progress (action competence)* ▪ Mentorship/Youth-Adult Partnerships ▪ Hands-on learning in action based activities* ▪ Contributing to the 'Team': allowing youth the responsibility and accountability of tasks enables empowerment for them to take ownership for the project and feel they are important and needed. Build community norms/social cohesiveness*
5. *Assess Barriers & Plan Strategies*	Assess what barriers inhibit engagement and plan strategies to overcome obstacles	**Common Barriers:** ▪ Tokenism to participate* ▪ Under-resourced projects which limit activities and outcomes (including limited funding and capital)* ▪ Lengthy meetings, complicated or long agendas, jargon, etc.* ▪ Outside factors such as money, parents, transportation, etc.*

			▪ Lack of access to information * ▪ Competing commitments* ▪ Lack of time ▪ Lack of relevant activities to personal interests ▪ Asked to work on unpleasant tasks/activities ▪ Unfriendly environment ▪ Not seeing an impact from engagement ▪ Need for a champion* **Planning Strategies*:** ▪ Research Gap: need further study to clarify the best process to plan strategies. ▪ Suggestion: consider elements from the *theory of scenario planning* (Meissner & Wulf, 2012) and *CBSM* (McKenzie-Mohr, 2013)
6.	*Run Programme**	Deliver programming	Continue to monitor from a needs assessment perspective to ensure activities meet the dynamic needs of all stakeholders*
7.	*Mediators & Moderators*	Consider factors that facilitate, interfere with, or interact in some other way with the engagement process and its outcomes	**Leadership Style*:** how autonomous is leadership and decision-making? Will it affect the planned outcomes? **Target Audience:** "youth's emotionality, activity level, agreeableness, self-regulation and communication abilities" (Riemer et al., 2013, p. 12) **Substantial cycles of high- and low-level activity*:** participants can become frustrated with lack of consistency **Facilitator*:** fine balance between dictating weekly tasks and supporting youth by providing enough direction to be able to make their own informed decisions. Participants typically need general directional support in order to complete tasks and gain confidence in their abilities (Wicks, personal communications, July 23, 2014) **Critical*:** Maintain sight of the bigger picture by celebrating small and tangible successes throughout the project and ensure students always have tasks they are working on or skills they are learning in order to sustain attention and prevent disengagement
8.	*Outcomes*	Celebrate outcomes. Outcomes can occur as impact on the individual, social, system and environmental levels	**Common Outcomes include:** ▪ gaining confidence* ▪ building knowledge and skills* ▪ cultivating motivation to try new things* ▪ becoming more civically and politically active within environmental policy work ▪ communication skills ▪ strong mentorship within the community (adult-youth, peer-to-peer, or older to younger youth)* ▪ concrete changes at the system or environmental level

		▪ development of policy ▪ advance youths' careers and professional relationships* ▪ shape young leaders* ▪ deeper knowledge-base around the issues of sustainability & environment ▪ raise awareness in community* ▪ Empower youth to become active ecological citizens and agents of change: Youth who feel confident, act competently, and participate in meaningful ways can become catalysts for change in their community ▪ Discussion and consensus building skills help youth to become "more socially responsible and cooperative" (Hart, 1992, p. 35) and thus "develop into more competent and confident members of society" (Hart, 1992, 34). ▪ Active environmental engagement allows youth to claim a sense of personal responsibility and ownership without overburdening them in societal negativity*. Action competence requires critical questioning* and this type of questioning through a reflective and participatory approach supports developing adults in overcoming the previously mentioned anxiety and 'doom and gloom' which can accompany some forms of environmental education.
9. *Final Evaluation**	Consolidate evaluation data from programme into a programme report to disseminate to all stakeholders and inform future programming*	**Concurrent Process***: occurs alongside the development and delivery of each programme component to adjust programme priorities and create a feedback loop for the eventual final evaluation which consolidates all the data for dissemination (Hiebert et al., 2001). **Multi-stakeholder Process***: involve all stakeholders beyond active involvement in the programme development and implementation to learn from previous successes and near misses that would otherwise be potentially repeated. **Final Evaluation Report*:** informs future programming of necessary adjustments in order to provide more quality and effective programming. This report is released to stakeholders and posted to the website as a marketing tool and to ensure transparency of the programme processes

Table 4. Modified Guideline of Best Practices: Development and Evaluation Table (adapted from Riemer et al., 2013)(Hiebert et al., 2001; Hart, 1992; Busseri et al., 2006; Garrison, 2005; HeartWood, 2012; Hirtle & Ure, 2006; Jensen & Schnack, 1997; Kelsey & Armstrong, 2012; Kolb, 1984; Lundholm & Plummer, 2010; Lynes et al., 2014; McKenzie-Mohr, 2013; Meissner & Wulf, 2013; Wals et al., 2009; Warner et al., 2010)

***new contributions or modifications to original YEEP model

Step 1: Needs Assessment

This thesis has added in 'Needs Assessment' as a critical step in the programme development and evaluation process as there is much literary support and the findings of this research emphasize the importance of this component (Hiebert et al., 2001; Berberet, 2006; Franz, 2009; Thomson & Hoffman, 2003; Marrs & Helge, 1978). Organizations develop programmes to address a need for which there are no other strategies already in place. A 'need', defined by Hiebert et al. (2001) is "the discrepancy, or gap, between a desired state and the actual state" (p. 13) which is dynamic and dependent upon subjective and relative viewpoints of the individual.   A comprehensive needs assessment is vital for effective programme development and evaluation and involves all stakeholders – including the target audience, the service providers, and the system – in the participatory process for determining the end outcomes, setting priorities, and determining criteria for solutions (Hiebert et al., 2001, p. 15; Office of Migrant Education, 2001, p. 6). The modified YEEP model is unique in that, in addition to a needs assessment of human stakeholders, there is emphasize on identification of a specific environmental issue or need which the engagement activity can address.

With a built-in feedback mechanism (see **Figure 7**, p. 61), there is continuous monitoring, informing, and re-evaluating to ensure the programme is on-track and is addressing the dynamic needs of each stakeholder. This first step should help practitioners and researchers determine how each component of the programme (activity, engagement, initiating/sustaining, barriers/strategies, mediators/moderators, and outcomes) fits into the overall 'big goal' and how it will be assessed and measured for success. The YEEP framework has been developed to help promote a culture of sustainability and this "requires active and engaged citizens" (Riemer et al., 2013, p. 2). As such, the 'big goal' of youth-based environmental engagement programmes should reflect and support these aims by incorporating an activity focus on direct or indirect action which results in an environmental outcome. This is an area of research which needs to be further examined to determine whether programmes without concrete environmental outcomes are actually effective in impacting future active ecological citizenship (e.g. nature appreciation activities).

From the three organizations researched in this thesis there are strong indicators of multi-stakeholder needs assessments and their impacts on informing the programme development and evaluation. Initial meetings with Joanna Bull, Emily LeGrand for the YAC: ATACC programme included a needs assessment of the EAC organization and my thesis research, resulting in a general understanding of a need to address (a) the lack of adequate structured support and guidance for incoming EAC youth volunteers, (b) a lack of environmental-based youth programming for the HRM community, and (c) provide a platform for primary data collection to inform my thesis research.

Once a unique organizational niche need was identified at the EAC, more information was collected through focus groups which invited youth, parents, and volunteer facilitators to share their subjective interests and needs. As youth were the target audience, their perspectives informed the majority of the programme's activity, engagement and outcome components. Parents were consulted as stakeholders since they would typically be providing transportation to the participants to and from the sessions. Volunteer facilitators were consulted on their time constraints, particular interests and comfort boundaries. Many researchers have found that active involvement in this early process helps promote ownership of the programme, creates communication among all representatives, and supports a cost effective development of a quality programme (Marrs & Helge, 1978; Hiebert et al., 2001; Berberet, 2006). The needs assessment continued throughout the YAC: ATACC programme as session debrief discussions determined the group and individual needs for following sessions. Finally, data collected from interviews with key participants, facilitators, and programme designers has been compiled in this thesis. In the final chapter three broad recommendations are offered to the EAC to provide direction on their final evaluation of the YAC: ATACC programme in terms of whether the original stakeholders' needs have been addressed, if the needs have changed, and what strategies could be improved to more effectively supply quality programming to the youth of the HRM.

Another consideration of the needs assessment is the available organizational resources. Organizational resources are of paramount importance because they affect the objectives, structure, and quality of activities and impact the way in which staff, volunteers, and participants interact. This type of assessment creates a picture of current organizational resources and allows for forecasting of possible foundational barriers at an early stage (Marrs & Helge, 1978, p. 143). Elements of this component include the geographical scope, the institutional structure, available funding, and marketing strategies. While funding is useful for youth-based environmental programmes, it is not entirely necessary; as demonstrated by the volunteer-based YAC: ATACC programme. However, it is beyond the scope of this thesis to delve into the expanse of complexity regarding the necessity and impact of funded versus volunteer-run programmes. In Canada funding is becoming increasingly more difficult to secure and thus, this is a component which definitely warrants more research to determine the impact and methods for running quality programming in a no-funding scenario.

A finding which also requires further research comes from the SYC case study which suggested the strength of institutionalizing within another organization. Ilona Dougherty, with another youth civic engagement program, Apathy Is Boring, agrees by stating that many times the actual impact and means are better served if the infrastructure is housed somewhere else and energy can be spent on developing and running the programme (personal communications, July 10, 2014). Established for almost 20 years, SYC attributes its longevity primarily towards its organizational structure as a sub-charter of the Sierra Club of Canada. This housing of infrastructure allows staff and volunteers to focus directly on programming rather than primarily

dealing with the administrative side of an organization, such as bookkeeping and accounting. From the beginning, SYC had an established foundation from which to receive funding, create a youth network across Canada, and gain new members and volunteers. Amelia Clarke, founder of SYC, emphasized this institutional structure by stating "don't create organizations, create programmes" (personal communication, June 30, 2014). This finding was echoed by the RTJ director Sara Wicks, and founder Theresa Sauren. While Reduce the Juice is currently on hiatus, Theresa has indicated that the Board of Directors is conducting a needs assessment to evaluate ways of re-structuring the organization to maintain a unique niche with the overall goal of facilitating meaningful projects and providing unique services for communities and their youth. In developing YAC: ATACC, the designers and I took this advice into account and found that being housed in the already established and reputable EAC was extremely beneficial in terms of networking connections and public outreach.

	Sierra Youth Coalition	Reduce the Juice	YAC: ATACC
Scope	Country Wide: Across Canada	Provincial: Ontario	Regional: HRM
Founded	1996	2005	2014
Current Status	Currently Running	Re-Structuring (on-hiatus)	Assessment of Pilot Programme
Stakeholders	- SCC Organization - SYC Staff - Member base - Universities - Students - Volunteers	- RTJ - High School Admin, Teachers & Students - University Students - Volunteers	- EAC - Facilitators - Youth (8-18 years old) - Parents - Bekah (thesis work)
Need (Unique Niche)	1. Change environmental and social practices on Canadian campuses 2. Empower youth to influence decision makers	1. Empower youth to be agents of social change for the environment in their schools 2. Unite secondary and post secondary students in climate change solution projects to make a difference both in their own communities and across the province	1. Address the lack of adequate structured support and guidance for interested youth volunteers 2. A lack of environmental-based youth programming for the HRM community 3. Provide a platform for primary data collection to inform my thesis research 4. Empower youth as participatory decision-makers in a 'by youth-for youth' structure
Organization Resources (institutional, funding, marketing)	- Institutionalized w/in SCC - Funding, Marketing, & Membership base support from SCC - Reputation - Network of connections	- Small organization (one year-round paid staff) - Network of connections - Successful & measured results from previous projects - Reputation (well-known in Ontario school system)	- Institutionalized w/in EAC - Reputation (well-known in Nova Scotia) - Limited funding (currently all volunteer-based) - Network of connections

Table 5. Organization's Needs Assessment Summary

Summary

A needs assessment is used to gather information from all stakeholders, identify an environmental issue which the programme's engagement activity can address, and inform and monitor the design, operation, and evaluation of a programme. This step is inherently continuous as stakeholder needs change and evaluations report necessary modifications for future programming and activities. Indicators for each programme component can be developed to aid in the continued assessment of successful design. Once an organization has a clear overview of the general needs of all stakeholders (including the environmental focus) and accounts for all organizational resources available, the engagement programme/activity along with the objectives, structure and quality can be outlined.

Step 2: Outline Engagement Programme/Activity

A youth engagement organization develops activities and presents them to the participants in hopes of engaging them in quality programming. The activity itself depends upon what the aims are (objective), the temporal duration (structure – density), and how leaders are going to interact with the participants (structure – leadership). The YEEP model uses the 'Activity' category to detail the objectives, structure and quality of an organization's engagement activity/programme. The evaluation of the primary and secondary data has revealed justification for the three-part YEEP model 'Activity' category as described in the below sub-sections.

Objectives

Riemer et al. (2013) include two generalized activity objectives: "instrumental and expressive activities" (p. 8). Instrumental activities "focus on objectives that lie outside of the organization itself" (p. 8) while expressive activities are those "within an organization or with members of the organization as the primary objective" (p. 8). Looking at the objectives of the case studies, there is a noticeable commonality between SYC and RTJ activities which can be categorized as being instrumental. On the other hand, the YAC: ATACC activity focus underwent a transformation from initial instrumental objectives of educating others through a public 'Eco-Challenge' event into expressive objectives where unstructured nature play and appreciation took place.

- SYC's works to improve campus sustainability and engage students in becoming leaders of sustainability on their campuses.
- RTJ focused on empowering youth as the agents of change for climate change mitigation initiatives within their schools and communities.
- YAC: ATACC was an after-school environmental youth action group, designed by youth, for youth. Focus on environmental education and nature-based play.

Activities included, but were not limited to, topics of active transportation, up-cycling, and nature exploration.

The YEEP model also differentiates between activities which directly engage participants with the environment or environmental issue (e.g. direct action such as building solar panels) versus activities which attempt to influence other people (e.g. in-direct action such as community-based eco-literacy). As seen in **Table 6** (p. 72), SYC influences universities and students to "improve campus sustainability, engage students to become leaders of sustainability on their campuses, and work with administration to advance sustainability initiatives" (Clarke, personal communication, June 30, 2014). RTJ has a direct engagement objectives with which youth are engaged in specific energy reduction projects such as building a renewable energy trailer, an alternative fuel vehicle, or installing a grid connected solar panel system. YAC: ATACC presents an interesting case since there were no direct or indirect actions, as the term is characterized by Riemer et al. (2013) in the YEEP model, nor by the theory of action competence (Jensen & Schnack, 1997). As a program which developed the objective of a 'by youth-for youth' program, the participants themselves dictated the activities of each session. This autonomous leadership, while extremely valuable in cultivating leadership, consensus-building, and teamwork skills, resulted in sessions focusing more on nature-based appreciation versus action-based environmental outcome activities. One might argue, in fact, that no significant environmental level outcomes were actually achieved. This raises concerns of how an environmental programme could have produced no concrete environmental outcomes and if, in fact, this affected the effectiveness of the programme in providing meaningful experiences and contributing towards a more sustainable culture in our society. One interpretation is simply that because there were no concrete environmental goals planned by the facilitators from the onset and youth were given autonomous liberty to lead the sessions a youth engagement focus took precedence. Another factor could be that the original YEEP framework has no explicit requirements that in order to produce effective programming there must be a concrete environmental outcome. This is a question which would benefit from more research and rigorous testing of the modified YEEP framework to ensure alterations have addressed this concern.

Structure

The success of an activity is dependent upon many elements; however, structure is perhaps one of the most critical as this is how the composition and delivery of the programme is determined. The YEEP model categorizes the structure into 'leadership style' and 'density' as the two key components.

All three organizations implemented a strong adult-youth partnership using active involvement, regardless of the diverse activities undertaken. A participatory leadership style was found to firmly empower the youth to make activities which were meaningful to them.

Reflecting back on Hart's Ladder of Participation and the Social Learning theory, when intergenerational partnerships occur it allows decisions to be made in a way that benefits both generations (Dougherty, personal communication, June 30, 2014). When asked about the partnership, one youth from the YAC: ATACC pilot programme answered: "*I liked having decision-making power...Sometimes what older people are interested in isn't what younger people are interested in*" (Participant #2, personal communication, June 25, 2014). In contrast, RTJ brought specific initiative ideas with funding to high schools where students then held the majority of the responsibility and accountability for designing the method for completing the project, dividing up and then completing the tasks. With support from the sidelines, students were the ones who actually drove the forward progress by setting goals and timelines to complete different components of their project. SYC follows a similar model, but partners with students, faculty, and administration to build carbon reduction initiatives at their own universities under the umbrella of the Sustainable Campuses Initiative programme. This collaborative mentorship gives the students the opportunity to take ownership of impactful projects in a meaningful location to those involved. Note, these elements of active involvement, decision-making power, and mentorship are strong indicators for the 'Quality' section detailed below.

Through the three case study findings, it became apparent that developers, practitioners, and researchers must be aware of the fine balance between programming goals and objectives and the engagement structure. Glasser (2007) indicated that the programme experience and outcomes for all stakeholders depends just as much upon "the preparedness, competence, openness, and maturity of the individuals engaging in it as on the rules that guide particular organizational learning, public participation, or decision-making processes" (p. 53). With these factors in mind, facilitators have to be attentive of how much guidance and support participants need to sustain their interest, gain action competence through skill building and tangible outcomes, and get the most effective experience from the programme. As learned from the YAC: ATACC program, this is especially critical in dealing with younger youth who may not have the competence and maturity to maintain forward momentum on a project without facilitator direction and in the absence of guiding organizational goals to achieve desired environmental outcomes. This leads into the next component, density of engagement and the concentration of activities over a length of time.

There was a broad range of activity density between the three organizations. However, each programme offered opportunities for "short, but intense experiences [which] can have important impacts on youth development" (Riemer et al., 2013, p. 9). It was identified by SYC and RTJ directors that offering an assortment of entry and involvement levels enables individuals to engage depending on time, availability, and interests (Rappell, personal communication, July 4, 2014; Wicks, personal communication, July 23, 2014). By separating final outcomes into smaller milestone targets youth are able to maintain engagement through celebrating frequent successes and realizing tangible achievements. This is of extreme importance for more complex

and multi-year initiatives such as the ones RTJ deliver. Similarly, SYC uses a long-term focus with complex programme objectives, achievable through high-density conferences and campaigning events. While some members may only attend a single conference, others are strongly involved within the Sustainable Campuses Initiative network on a regular basis. The YAC: ATACC pilot programme was different since it was designed for a short-term test phase. However, the early-set precedent for an active participatory leadership style helped youth to inform leaders of desires for a high-density (meeting weekly for two hours) that ended up with a focus on environmental lifestyle learning activities and nature exploration toward the end of the eleven session pilot programme.

	Sierra Youth Coalition	Reduce the Juice	YAC: ATACC
Activity Objectives	Sustainable Campuses Initiative ▪ *Instrumental* objective ▪ *Influence others* ▪ Networking & Conferences ▪ Student Research Projects ▪ Policy & Audit Support	After School Club ▪ *Instrumental* objective ▪ *Direct engagement* ▪ Partnerships with public schools ▪ Specific energy reduction projects	After School Club ▪ Transformation from *Instrumental into Expressive* objective ▪ *Direct engagement* (limited – see below for explanation) ▪ Designed by youth for youth
Leadership Type	▪ Executive Committee ▪ Paid Staff ▪ Volunteers ▪ Various Levels of Active Involvement (Consulted and Informed – Child-Initiated, Shared Decisions with Adults) ▪ Occurrence of Social Learning (i.e. individual, group, and institutional level processes leading to active involvement, education, and action competence)	▪ Board of Directors ▪ Paid Director ▪ Teacher Volunteers ▪ Adult-Initiated, Shared Decisions with Children ▪ Occurrence of Social Learning (i.e. individual, group, and institutional level processes leading to active involvement, education, and action competence)	▪ Volunteer Young Leaders/Advisors ▪ Volunteer Facilitators ▪ Volunteer Parents ▪ Various Levels of Active Involvement (Adult-Initiated, Shared Decisions with Children – Child-Initiated, Shared Decisions with Adults) ▪ Multi-stakeholder power of decision

Table 6. Organization's Engagement Activity/Programme Results Summary

Assess Quality

      The final component of the *Engagement Activity/Programme* is here to allow programmers and researchers a chance to evaluate their objectives and structure in light of the environmental education and youth engagement literature as well as the case studies which have related what other researchers and practitioners have determined to be the best practices for youth-based environmental engagement programme design. The best practices that have been established from this research are listed in **Table 4** (p. 62). It should be noted that these best practices are only guidelines based on experiences in other programmes and research findings. Each and every programme is unique unto itself and the quality should be assessed with that in

mind. For example, not all programmes are suitable candidates for a mentorship model or exclusively hands-on initiatives.

There has been a lot of research into the best methods to conduct youth engagement and to provide quality programming for youth. Mentorship through youth-adult partnerships, meaningful engagement, active and fun hands-on initiatives, learning new skills, and short-term measurable impacts were just some of the indicators of quality activities found during the literature review and the primary/secondary data findings (Province of British Columbia..., 2013). Elaine Ho (2013) points out, however, that youth have very few opportunities to collaborate in meaningful ways with decision makers and power holders (p. 105). Yet, Busseri et al. (2006) suggests "youth involvement is an important indicator of positive identity development and civic engagement" (p. 1323). If this potential is recognized, the existing barriers in achieving quality youth engagement may be slowly broken down (Ho, 2013).

Strong programme characteristics such as establishing a mentorship model and actively involving youth in participatory decision-making produces "a momentum and create[s] the opportunity [for youth] to relate to other young people" (Wicks, personal communication, July 23, 2014). RTJ realized, as is also prescribed by the Province of British Columbia, Ministry of Children and Family Development (2013), that "building partnerships with youth is essential to the success of any youth engagement efforts" (p. 22). Therefore, students took a lead on researching feasible methods for achieving the targets of the project with mentorship from teachers, University of Waterloo (UW) students from the 'Sustainable Technology Education Project (STEP)' programme, and Sara Wicks. Sara worked with the teachers and specialized volunteers to offer expertise on design and construction processes, create awareness of energy consumption, and, most importantly, incorporate some aspect of the project into the regular curriculum and provide hands on learning opportunities. For example, the PV Installation Project in Waterloo created data which, even currently, is collected and analyzed by students for classroom projects. SYC organization highlights these same principles of quality through the mentorship between SYC staff and volunteers and the students, faculty and administration at universities. See above 'Structure' section for further detail on mentorship in SYC.

Alternatively, YAC: ATACC allowed youth the freedom to choose what activities they wished to pursue and supported them by facilitating consensus-based decision-making discussions, suggesting methods for completing an activity, and organizing workshops with volunteer experts to learn new skills. This autonomy, mentioned previously in above discussions, is also further examined in the Step 7: Mediators and Moderators because there are certain limiting factors which may affect the quality and need to be considered by programme developers and researchers.

Interestingly, although the YEEP framework was developed to address concerns of how to move our society towards a new culture of sustainability and Riemer et al. (2013) does outline

direct and indirect action that environmental programmes typically focus on, within their visual model, the article itself and the Development and Evaluation table (**Appendix A**, p. 98) there are no explicit requirements to produce concrete environmental change outcomes. This thesis has found through action competence literature, the experience with YAC: ATACC, and the two case studies that there is a necessity for programmes to ensure their objectives include an element of direct or indirect actions which produce an environmental change outcome and contributes to a more sustainable society

While youth in YAC: ATACC did not have a significantly large experience of action competence through their lack of an action goal or significant activity, they did engage with another important foundation of active ecological citizenship, that being nature experience. Through their research, Arnold et al. (2009) found that unstructured nature play in early childhood and "intense immersion experience in the natural world" (p. 32) beginning in late childhood are significant influences on development as environmental leaders. Environmental knowledge and practical skills are also an important component in developing active ecological citizens. Working towards this goal, YAC: ATACC participants were able to learn useful bike maintenance skills; create re-purposed, artistic, up-cycled items; tangibly see progress on their nature forts; and share their successes with their family and peers during a final open-house 'show and tell' session. One youth explained how "when we went outside we had so much fun in nature...The forts gave people an opportunity to realize what is right there. There's a lot more in the city to do than people know!" (Participant #2, personal communication, June 25, 2014). While it could be hypothesized that these activities have contributed to each participants' future action competence, it was outside the scope of this research to collect the data and evaluate indicators of potential success. Future research in the measurement of action competence from exposure to particular types of activities may be warranted to further develop the knowledge-base of YEEP program activity best practices.

Summary

Primary and secondary data collection has provided supportive evidence for the categories Riemer et al. have devised for the Activity section of the YEEP model. This thesis also found an emphasis from YAC: ATACC, SYC, and RTJ suggesting the importance of designing a quality youth-based environmental engagement programme with both environmental and youth engagement objectives and a structure containing elements of youth active involvement, hands-on experiential learning opportunities, and tangible environmental outcomes through action competence; the three key theories detailed in Chapter 2.

Step 3: Plan Engagement

Intensity

Riemer et al.'s (2013) 'Engagement Process' section is highly supported by this thesis' findings (see **Table 7**, p. 77); however a minor addition is proposed to the 'Intensity' component. The YEEP model breaks down 'Intensity' into elements of affective, cognitive and behavioural responses. The best practices found during this research have produced resounding parallels to the theories of active involvement, experiential learning, and action competence. This thesis identifies that incorporating strong elements of all three practices tends to produce successful and impactful youth engagement. As Riemer et al. (2013) pointed out, "a youth highly engaged in an activity has a rich experience covering all three dimensions" (p. 10). This statement was evident in real-life application from RTJ's Electric Powered Car initiative. Sara Wicks (personal communications, July 23, 2014) related how excited students were to learn skills such as welding and then later apply them to the construction of their Electric Powered Car design. However, Sara also noted that the group started losing numbers during down-times when limited hands-on activities and learning were taking place. With the rising research base discussed in Chapter 2 and growing usage of these three practices as seen through the case study analysis active involvement, experiential learning, and action competence are proposed as ideals for (a) the affective, cognitive, and behavioural responses components of 'Intensity', and (b) the development and assessment of youth-based environmental engagement programmes.

Breadth

Across each of the case studies the YEEP model's 'Breadth' component has been represented by the diversity of activities which as a whole create the larger end goal of the initiative. One key point which emerged was the agreement that there needs to be "different engagement points for different people" (Clarke, personal communication, June 30, 2014). Giving youth a range of activities has shown to reduce risky behaviours and support youths' intra- and interpersonal growth as they learn from experiences and gain skills to overcome future challenges (Busseri et al., 2006). Although the findings clearly demonstrated breadth to be important, measuring the actual quantitative level of diversity of each of the organizations is beyond the scope of this research. Alternatively, this thesis examined what activities were delivered and noted if youth were given a choice in the range of activities. Here is what was found:

In the YAC: ATACC programme, youth participated in deciding what activity would be undertaken the following session. Activities ranged from learning basic tools and techniques to fix a bicycle, to an up-cycling session where old odds and ends were given new life, to playing in the forest and building forts out of deadfall and natural materials. However, one limitation was that the programme was not operating under a cohesive vision and had no overarching goal – besides a 'by-youth-for-youth' engagement model – for participants to strive towards. This will be discussed further in the below sections. The SYC hosts a variety of events, workshops, and

opportunities within their 'Sustainable Campuses' project. At any point, an SYC member can start up one of the Sustainable Campuses campaigns, conduct a campus sustainability assessment, or consult with SYC on campus sustainability recommendations or plans of action. SYC's activity organization structure tends to be a bit more 'child-initiated and directed' with outside support from SYC's team of staff and volunteers. This has its limitations, as there needs to be a 'champion' to take lead on the project and ensure sustaining factors are in place (Clarke, personal communications, June 30, 2014). RTJ participants divided their end-goal into a series of smaller milestones where different groups focused on aspects of the project which appealed to them (i.e. carpentry, computer electronics, marketing, etc.). There were limitations however, with this approach; for example, if members of a specific task group were not engaged consistently, they tended to lose interest and disengage from the project.

Duration

The final component of the Engagement section is the 'Duration' which describes dimensions of both consistency and amount of time. From the literature reviews and interviews there was little consensus of what denoted the best practice for duration. SYC gave examples of individuals who had been involved for a single weekend conference, to the average person who engages in programming for a year or two, all the way to those who have been with the organization for upwards of six years. Clarke and Rappell have found with SYC that duration is dependent upon the individual, thus having different engagement points available allows everyone the opportunity to take part (personal communications, June 30, 2014; personal communications, July 7, 2014). Sara Wicks, from RTJ, related from her experiences that typically as youth grew older, they could sustain longer engagement durations. This was supported by findings from the YAC: ATACC programme where younger participants needed a variety of activities during a single session whereas older participants tended to be content with a single in-depth activity (LeGrand, observation, June 7, 2014). Unlike adult engagement where twice a year contact is enough, youth engagement needs to be more intensive and short-term (Clarke, personal communications, June 30, 2014). One option put forward by Clarke (personal communication, June 30, 2014) was to have youth engaged in a four month project at which point they help choose the next four month project.

However, there are many factors also in play since each unique programme is of different length and activity consistency depending upon the scope, objectives, and the target audience. One point iterated by all sources was the importance of breaking long duration projects into smaller goals. This provides the opportunity for small celebrations along the way to acknowledge accomplishments and forward movement (Wicks, personal communications, July 23, 2014). Thus, with exception to the value of celebrating smaller programme goals and the relation between age and length of programme, this thesis contends that duration of youth engagement is strongly dependent upon each individual project and recommends more research is needed for a conclusive best practice of duration to be determined.

	Sierra Youth Coalition	Reduce the Juice	YAC: ATACC

Engagement (Intensity, Breadth, & Duration)	▪ Affective (active involvement)
	  ▪ Conducts programmes in locations meaningful to participants (their university)
	  ▪ Multi-stakeholder process engages members in meaningful and collaborative ways
	  ▪ Mentorship structure
	▪ Cognitive (education)
	  ▪ Training opportunities (workshops)
	▪ Behavioural (action competence)
	  ▪ Support network for projects and initiatives
	  ▪ Research tools (Campus Sustainability Assessment Framework & GHG Emissions Inventory Calculator)
	  ▪ Help turning research into action plans
	▪ Breadth:
	  ▪ Variety of workshops at conferences, campaign & event options, etc.
	▪ Duration:
	  ▪ 2 days-6 years
	  ▪ Irregular meeting times
		▪ Affective (active involvement)
		  ▪ Conducted programmes in locations meaningful to participants (their school)
		  ▪ Participants decided methodology to complete projects
		  ▪ Mentorship structure
		▪ Cognitive (education)
		  ▪ Hands-on skill building (construction, computer, marketing, welding, etc.)
		  ▪ Understanding administrative processes (sitting in on important meetings)
		▪ Behavioural (action competence)
		  ▪ Solar Panels on Roof
		  ▪ Reduced Idling
		  ▪ Renewable Energy Trailer
		  ▪ Measurable and tangible results at individual, social, environmental and systemic levels
		▪ Breadth:
		  ▪ Different project at each new school
		  ▪ Participants chose from a variety of tasks based on their interests
		▪ Duration:
		  ▪ 1-3 years
		  ▪ Irregular meeting times, but generally 1x/week for 2-3 hours
			▪ Affective (active involvement)
			  ▪ Focus Groups: involvement from onset to decide programme goals
			  ▪ Conducted programmes in locations meaningful and accessible to participants (HRM)
			  ▪ Activities were '*child-initiated, shared decisions with adults*'
			  ▪ Peer mentorship emerged
			▪ Cognitive (education)
			  ▪ Bike maintenance skills
			  ▪ Road/bike safety
			  ▪ Up-cycling (what it is, what can be done, etc)
			  ▪ Safe woods exploration
			  ▪ Woods navigation
			  ▪ Creative & critical thinking
			  ▪ Fort/shelter building
			  ▪ Leave No Trace (LNT) principles
			▪ Behavioural (action competence)
			  ▪ Confidence w/ active transportation & exploration in woods
			  ▪ Produced re-purposed items & crafts
			  ▪ Produced sturdy forts using LNT principles
			  ▪ Communicated to others (i.e family and peers) about their nature experience and expressed what benefits they had felt themselves
			▪ Breadth:
			  ▪ New activity focus each session based on group interests
			▪ Duration:
			  ▪ 10 weeks
			  ▪ Regular 1x/week for 2 hours

Table 7. Organization's Engagement Process Summary

Quality Assessment

    This thesis recommends the addition of another check-point for programme designers to assess the quality of their engagement elements in comparison to the best practices found by other programmes and research. Again, these best practices are simply meant as guidelines and each case should account for the unique organizational resources, stakeholder needs, and activity objectives of their specific programme. The best practices that have been established from this research are listed in **Table 4** (p. 62).

Summary

With a minor adjustment to the terminology of the 'Intensity' components and an additional 'Assess Quality' component, the findings from this thesis for the Engagement Process section seem to maintain agreement with the YEEP model. To engage youth it seems to be critical to provide a variety of engagement points and activities. This research, however, was unable to determine the exact level of diversity required to achieve the greatest engagement within each programme. As found during the case studies, there are limitations to offering too many activities which resulted in disengagement in RTJ programmes and barriers to initiation in SYC programmes. Similarly in the YAC: ATACC programme, the breadth of activities played a role in inhibiting youth from focussing enough on the achieving the larger end-objectives. These limitations are discussed in the Barriers section below. With the third component, 'Duration', there was strong evidence for a need to consider various factors such as target audience, activity scope and objectives, and structure. The duration is highly influenced by factors unique to each programme and more research is needed in order to compile a reliable best practice for this component.

Step 4: Identify Initiating and Sustaining Factors

There are various reasons why people get involved with certain programmes, be it personal interests or they're dragged in by a friend. The data from this thesis further supports that both initiating and sustaining factors fit into the categorisation of 'individual', 'social', and 'systemic' proposed first by Bronfenbrenner (1992) and later adopted by Rose-Krasnor (2009) and Riemer et al. (2013). From cross-analysis of similarities and discrepancies between the case studies, YAC: ATACC programme, and literature review this thesis puts forward the following factors as critical initiating and sustaining elements for developers and researchers to take into account [see personal communications; Hickman, 2012; Pancer et al., 2002; Riemer et al., 2013]. It should be noted that this is not necessarily an exhaustive or exclusive list for all youth-based environmental engagement programmes since each have unique circumstances and barriers which must be taken into account.

Initiating
- Pre-existing personal values & interests (*individual*)
- Looking for ways to get involved, make a difference, impact change (*individual*)
- Projects were cool and fun (*social*)
- Peer Relationships (Friends were involved) (*social*)
- Mandatory (family/class credit/community service) (*systemic*)

Sustaining
- Meaningful: doing something that really matters, celebrations of small successes, seeing movement forward, tangibles, gaining new skills (*individual/social*)
- Mentorship: university students & teachers & volunteer experts (*social*)
- Social Norms: Contributing to the "team", sense of connectedness/part of the community (*social*)
- Participatory Decision-Making: really being heard, making real decisions, student-led approach (*system*)

	Sierra Youth Coalition	Reduce The Juice	YAC: ATACC
Initiating Factors	▪ Pre-existing personal interest/concerns for Environment ▪ Impact change in meaningful location (university) ▪ Looking for ways to get involved, make a difference, impact change ▪ Already involved in network and go to a conference ▪ SYC training ▪ Seeking out organizations for support (emotional) in environmental issues ▪ Friends were involved ▪ To meet like-minded young people ▪ A 'Champion' ▪ Applied student research opportunities	▪ Pre-existing personal interest ▪ Projects were cool & fun ▪ Skill Building ▪ Hands-on experiences ▪ Teacher support (environmental programme in school system) ▪ Friends were involved ▪ Course credit (mandatory) ▪ Facilities available at the school	▪ Pre-existing personal interest ▪ Projects were cool and fun ▪ Desire to help the community ▪ Desire to learn and take action – affect change ▪ Lack of other programmes offering environmental programming (other programmes are 14+) ▪ Parents were passionate
Sustaining Factors	▪ Ongoing support from organization (i.e. training, project opportunities) ▪ Paid internships ▪ Empowerment and ownership of a project ▪ Contribute towards something important ▪ Real/tangible outcomes ▪ Celebrations of success ▪ Social cohesiveness (build community norms, value of consensus-based participatory) ▪ Institutional support from SCC (reputation, funding, legitimacy, alumni network) ▪ Already a resilient structure/network in place ▪ Youth themselves sustain it...they drive it forward (champions)	▪ Tour of UW engineering departments ▪ Mentorship (university students & teachers & volunteer experts) ▪ Real/tangible outcomes ▪ Celebrations of small successes (seeing movement forward) ▪ Social Norms: Contributing to the "team" ▪ Student-led approach ▪ Measured results ▪ Course credit (mandatory for pass) ▪ Skill Building	▪ Youth participatory decision-making power ▪ Finding others who were interested in environmental initiatives ▪ Being a part of the 'team' ▪ Supportive parents ▪ Safe supportive group environment ▪ Seeing a project from start to finish ▪ Mentorship (facilitators, between older/younger youth) ▪ Being outside every time and having hands on activities to do

Table 8. Organization's Initiating and Sustaining Factors Summary (*from personal communications*)

Step 5: Assess Barriers and Plan Strategies

At this point, modifications are again suggested for the YEEP model. Originally, Riemer et al. (2013) included the sub-category, 'Barriers', in the Initiating and Sustaining Factors section of the article, Yet, 'Barriers' is not included in the visual YEEP model, nor does the original Development and Evaluation Table take this integral component into full account. This thesis proposes 'Barriers' to be a section unto itself which applies not only to the Initiating and Sustaining section, but to the Needs Assessment, Engagement and Activity sections as well. Barriers should be considered from the onset of programme design to allow effective development of strategies to overcome the obstacles and produce successful activities and engagement opportunities prior to launching the programme.

Secondly, Hart (1992) and Glasser (2007) state that active involvement in any form of engagement is dependent upon the individual youth at that specific time and can be affected by psychological, social, physiological and environmental factors. Further characterization for this comes from the theory of Community-Based Social Marketing (CBSM) where McKenzie-Mohr (2013) maintains barriers can be either internal or external to the participant (p. 1). Therefore, each programme must carefully consider on a holistic level what internal or external barriers might arise – taking each type of factor into account – and develop strategies to overcome potential obstacles. Approaching this step with those specifically labelled dimensions in mind will aid developers and researchers in fully recognizing potential barriers which may have been otherwise forgotten. Specific to this framework which has an environmental programme focus, developers and researchers must prioritize external barriers equally with internal barriers. It is outside the scope of this research to fully examine the external-specific barriers (environmental, administrative, political, economical, etc.) which apply to the YEEP model and there is a need for further research to more fully understand resulting implications of this component.

Assess Barriers

All of the barriers listed by Riemer et al. (2013) were mentioned during case study interviews and/or were experienced by the facilitators and participants of the YAC: ATACC programme. The full list can be found in **Table 9** (p. 81). Further, the literature review returned similar results, with the addition of: tokenism to participate; under-resourced projects which limit activities and outcomes; lengthy meetings, complicated or long agendas, jargon, etc.; outside factors such as money, parents, transportation, etc.; and a lack of access to information [see Hirtle & Ure, 2006; Garrison, 2005; Leonard, 2004; Apathy is Boring, 2004; Chawla, 2008]. It is important to note that this list is not exhaustive and each programme may or may not encounter versions of or additions to this list.

One unique barrier which arose from the SYC case study was the need for a 'Champion' to take lead on a project. SYC does wonderful work at supporting, networking, and educating for sustainability on campuses across Canada. Yet, a significant drawback is that programming is supplied to a university and relies upon an individual or group to initiate and sustain ongoing activities and outcomes. If, for some reason, that individual or group leaves the university or suddenly develops other priorities, it is difficult for SYC programming to continue unless someone else at the university can step in. Retaining programming once the 'champion' has graduated university requires lots of forward planning and ensuring another 'champion' can step into the void.   Applying this to the YEEP model, organizations should consider if this barrier applies to their situation and, if so, should investigate strategies which can minimize the obstacles. Alternatively, organizations may decide it would be better to focus on a smaller geographical area or structure their activities differently; for example, do tours across the country, delivering educational programming on the way.

	Sierra Youth Coalition	Reduce The Juice	YAC: ATACC
Barriers	▪ Lack of time (un-fixed university schedule) ▪ Time-zone (cross-Canada programme) ▪ Administration not open to sustainability initiative ▪ Limited funding and capital ▪ Competing commitments of youth ▪ Connecting across time zones and geographical distances	▪ Competing commitments ▪ Cycle of high/low activity levels throughout projects ▪ Administrative red-tape ▪ Limited funding and capital	▪ Lack of time ▪ Lack of relevant activities to personal interests ▪ Average group age ▪ Competing commitments ▪ Volunteer-based (i.e no funding)

Table 9. Organization's Barriers Summary

Planning Strategies

'Planning Strategies' is a component of Step 5 which this thesis proposes as an addition to the YEEP model. To give youth the opportunity to effectively engage in programming, the barriers to engagement must be minimized, or, as Hickman (2012) pointed out, "individuals need to understand how they can overcome or negotiate challenges" (p. 70). While this is based on limited data and will need further research to discover the best method for planning effective strategies, this research has uncovered some supporting data, including the CBSM model which has been developed specifically to address behaviour change regarding sustainability issues by identifying what barriers exist and how to overcome them. Additionally, previous graduate course research done on the theory of scenario planning also lends supportive elements to this planning strategies component. Scenario planning theory holds that it is better to methodologically consider a variety of confounds that may occur and figure out ways in which to control those uncertainties instead of single-mindedly reaching towards a final, single outcome. As a framework tool, this process can be used in different situations to creatively overcome thinking limitations through the creation of multiple futures (Amer, Daim, & Jetter, 2013).

Both of these theories acknowledge the importance of identifying potential pitfalls of the programme design and constructing a strategy or 'alternative scenario' to effectively resolve the barrier through a set of methodological steps (see **Table 10**, p. 82). Further research will need to be done to clarify whether these two theories are in fact the best theories to use to plan strategies for youth-based environmental engagement programmes.

Scenario Planning Steps	Scenario Planning Description	CBSM Steps	CBSM Description
1. Define Scope	▪ Identify time frame of programme ▪ Identify target audience ▪ Identify desired outcome/goals	**1. Selecting Behaviours**	▪ Clearly identifies target audience ▪ Selects behaviors that are both non-divisible and end state ▪ Evaluates list of selected behaviors for potential impact, penetration and probability ▪ Limits number of behaviors to target in any given CBSM campaign (e.g. not more than five to six behaviors)
2. Identify Major Stakeholders	▪ Who will be involved in process? ▪ Reach out and involve target audience and stakeholders using recruitment techniques		
3. Assessment: Identify Key Uncertainties	▪ What will affect the outcome/goals identified in scope? ▪ What uncertainties are there? ▪ Involve all stakeholders to identify all possible pitfalls and opportunities	**2. Identifying Barriers & Benefits**	▪ Conducts research on barriers and benefits for each of the potential segments in the target group ▪ Identifies and distinguishes between barriers and benefits that are internal versus those that are external to the target segments
4. Construct and Develop Alternatives to Address Key Uncertainties/Identify Research Needs	▪ Address 'Key Uncertainties' ▪ Identify a couple simple methods of achieving initial outcomes/goals ▪ Identify areas that need to be further researched to flesh out the alternatives	**3. Developing a Strategy**	▪ Creates strategies that are appropriate for the barriers of the behavior(s) being promoted and reduce the benefits of the behavior(s) being discouraged ▪ Develops commitment tools that: emphasize written over verbal; seek commitments in groups; actively involve the individual; avoid coercion; help people to view themselves as environmentally-concerned; and are public and durable ▪ Develops prompts that are: noticeable; self-explanatory; presented in close proximity to where the action is taken; and encourage positive behaviors rather than discouraging negative behaviors ▪ Engages well-known and well-respected people to be part of the campaign ▪ Encourages the use of norms that are visible and reinforced through personal contact ▪ Develops communication tools that are: captivating; tailored to the target audience; uses credible sources; appropriately
5. Check for Consistency and Plausibility	▪ Describe what aspects work and don't work from each alternative ▪ Do the scenarios work with the chosen time frame? ▪ Are the stakeholders happy with their roles in each scenario?		

6. Evolve towards a 'Decision Scenario'	▪ Decide which alternatives hold the 'best' outcomes for a solid programme design
	▪ Criteria include:
	  ▪ Relevance to the participants/users
	  ▪ Internally consistent?
	  ▪ Will the scenario		

	provide an outcome that will last for a length of time instead of being transient?		frames the message; and makes message easy to remember ▪ Establishes incentives/disincentives that: reward positive behavior; are closely paired with behavior; and are visible Initiates convenience strategies that attempt to address external barriers
7. Test, Evaluate and Refine Scenario	▪ Do a 'dry run' to check for missing components ▪ Evaluate the programme from aspect of all stakeholders. ▪ Is there any missing components? ▪ Are there aspects that do not work? ▪ What can be improved?	**4. Conducting a Pilot**	▪ Develops a pilot that can be compared with baseline measurements ▪ Utilizes a control group ▪ Whenever possible, participants are randomly selected and then randomly assigned to strategy or control groups ▪ Whenever possible, evaluates strategy effectiveness through unobtrusive measurements of behavior change rather than through self-report ▪ Focuses only on the strategies that can be implemented at a broad scale
		5. Evaluating Broadscale Implement-ation	▪ Measures activity prior to implementation and at several points afterwards ▪ Utilizes evaluation data to used to retool strategy and/or provide feedback to community
8. Re-Test Scenario	▪ Final 'dry run' – check and re-check everything		
9. Run Programme	▪ Real thing		
10. Report/Final Evaluation	▪ Identify home-runs and near-misses ▪ Write a report for future users of programme		

Table 10. Cross Analysis of Scenario Planning Theory and CBSM

Step 6: Run Programme

After all the planning and assessing comes the fun part of actually launching the programme (or pilot) and watching as all of the hard work comes to fruition. Although this step may be hectic and busy, it is important during the programme to continually monitor from a needs assessment perspective and ensure the planned activities are meeting the needs of all stakeholders. There will be mediating and moderating factors which influence the engagement

and its outcomes. Monitoring will help reduce the negative influences and adjustments can be made along the way.

Step 7: Mediators & Moderators

Riemer et al. (2013) provide very little information on this section and indicate that little empirical research has been done on the mediating and moderating factors and processes which impact the engagement and outcomes of youth-based environmental engagement programming. The majority of the time however, Bennett (2000) suggests, practitioners and researchers should be able to predict mediators by the independent variable (i.e. elements of engagement – intensity, breadth, and duration) and moderators by the target audience (i.e. "youth's emotionality, activity level, agreeableness, self-regulation and communication abilities" [Riemer et al., 2013, p. 12]) (p. 416-7).

Looking at how this section pertains to YAC: ATACC, moderators played a significant role in impacting the way in which outcomes unfolded. First, the necessity of concrete direct or indirect environmental outcomes for effective youth-based environmental engagement programming was also not clearly addressed from the onset of programme development and thus, the goals did not reflect the need for significant environmental outcome goals. Further evaluation should take place and modifications need to be made to address these concerns prior to launching a future version of the YAC: ATACC programme. Recommendations for possible areas of modification are offered to the EAC in the final chapter.

Second, as discussed above, it is important to be aware of the interactions between the level of leadership youth have and the end outcomes. With a lack of pre-defined environmental goals, along with a strong emphasis on leadership autonomy in the YAC: ATACC programme and a drop in the age bracket of the participants (moderator) the initial planned outcomes substantially changed which resulted in not significantly achieving the original planned action-based environmental outcome. While definitely not a success indicator, this is not necessarily a negative occurrence; however this type of moderator must be closely scrutinized to ensure the programme still meets the needs of all stakeholders. For example, YAC: ATACC was designed as a programme which provided a structured space for youth, ages 8-18, who approached the EAC wanting to get involved in environmental initiatives. On one level, the programme failed to address this need; none of the youth who had contacted the EAC prior to the programme or while the programme was running actually attended the YAC: ATACC sessions. Nonetheless, the youth who did attend – though of a younger age – did choose to immerse themselves primarily in nature-play, gaining positive experiences in the natural environment as well as learning the power of youth-led decision-making. Reflecting back on the components for developing active ecological citizenship, it can be seen that these activities provided a participatory and educational

experience through youth-led active transportation, leave no trace and up-cycling sessions. Thus, on another level, the progressive shift and resulting digression of planned end-goals still produced environmental education-based activities, just not the requirements of action competence or the 'action' component of active ecological citizenship. In summary, both the limitations from not incorporating significant environmental change goals and the focus on youth decision-making autonomy did affect the end-outcomes and had an impact the successfulness of achieving all stakeholders' needs.

Summary

Within this thesis, there were inconclusive findings of generalizable and consistently predictable mediators and moderators which impacted the association between engagement and outcomes. The limitation was the intrinsic uniqueness of each and every programme and its target audience, and the social and cultural situation. While **Table 11** does list the mediating and moderating factors of the three organizations, there is little to indicate that this is an exhaustive or exclusive list. More research needs to be done to evaluate the effects of mediators and moderators. This thesis, therefore, echoes the recommendation of MacKinnon et al. who suggest that no programme design is a one size fits all; each must be considered on an individual basis.

	Sierra Youth Coalition	Reduce The Juice	YAC: ATACC
Mediators & Moderators	▪ Applied student research ▪ Reputational success and track record as an organization ▪ Institutionalized within SCC ▪ Funding ▪ Ability to pay staff	▪ Celebrate small and tangible successes ▪ Always have tasks or skill building opportunities	▪ Finding balance in leader vs. facilitator ▪ Balance between youth decision-making and achieving outcomes

Table 11. Organization's Mediators and Moderators Summary

Step 8: Outcomes

In the YEEP framework article there are some discrepancies between the visual model, the written section and the Development and Evaluation Table (see **Appendix A**, p. 98). In the model, the sub-components of Outcomes are: individual, relational, system and environmental. In the written section, the sub-components include: individual, social, system and environmental. Finally, in the Development and Evaluation Table, there are only individual, social and system components. This inconsistency makes it difficult to provide a comprehensive programme planning tool to providers and researchers. Thus, this thesis suggests standardizing the sub-components into four levels which are accounted for in each overview: individual, social, system and environmental.

Outcomes are, again, uniquely dependent upon the type of programme being delivered. The outcomes from each of the three organizations are outlined in **Table 12** and common outcomes from youth-based environmental engagement programmes in general are listed in **Table 4** (p. 62). However, some general associations have been corroborated, such as more impactful and meaningful engagement when elements of active involvement, experiential learning, and action competence are incorporated into activities (Riemer et al., 2013; Wicks, personal communications, July 23, 2014); and correlations between diversity of engagement and lower levels of risky behaviour (Busseri et al., 2006).

	Sierra Youth Coalition	Reduce The Juice	YAC: ATACC
Outcomes	*Individual* ▪ Strong facilitation ▪ Media skills *Social* ▪ Social friendships ▪ Strong youth member network *Systemic* ▪ Development of policy ▪ Creative networks across Canada ▪ Successful educational conferences, campaigns and events ▪ Multi-stakeholder process ▪ Leadership ▪ Sustainability Coordinator positions on campuses *Environmental* ▪ Deeper knowledge base on issues of sustainability ▪ Measurably lowered carbon footprints ▪ Raising awareness of campus sustainability and climate change issues	*Individual* ▪ Confidence ▪ Knowledge ▪ Skills ▪ Motivation ▪ Articulate complex ideas ▪ Communication skills *Social* ▪ Strong mentorship ▪ Leadership *Systemic* ▪ Civically/politically active ▪ Anti-idling campaign handbook available for future projects ▪ Multi-stakeholder process *Environmental* ▪ Projects still in use (solar panels on roof)	*Individual* ▪ Environmental-based education (up-cycling/active transportation/cold-frame gardening) ▪ Skills (bike maintenance) ▪ Motivation/Confidence/ Ownership/Empowerment ▪ Communication skills ▪ Consensus-based decision-making process *Social* ▪ Mentorship between younger and older participants ▪ Leadership ▪ Positive experience in natural spaces of HRM *Systemic* ▪ Multi-stakeholder process *Environmental* ▪ No demonstrated environmental outcomes ▪ Potential for nature-appreciation activities to impact youths' future action competence and active ecological citizenship (more research necessary)

Table 12. Organization's Outcomes Summary

This step is not a static end-occurrence within the programme; outcomes are being fulfilled throughout the delivery as activities address the objectives designed in the planning process. Many times there are outcomes which are unplanned; for example, the YAC: ATACC scenario explored in the section above. The important thing for any programme developer and evaluator to be aware of is that the needs identified by all stakeholders are being addressed. If outcomes do not satisfy the needs of everyone, then the programme has failed to fulfill its

purpose. In the YAC: ATACC situation, the programme did not provide for the needs of the EAC; the youth contacting the organization did not attend the new programme. It can be interpreted from the findings of this thesis that the EAC simply did not put enough of an emphasis on designing the program to address the organization's needs. The program evolved into a focus on "engaging youth" in experiential learning and participatory decision-making, but did not clarify the question of "for what purpose" other than for engagement itself. Due to this, the original parameter's discussed during the focus group, including "b) engagement in anything environmentally related to create a meaningful action (i.e. encourage thinking broadly and creatively within the environmental discipline)" was not fully addressed during the program and thus did not create significantly meaningful action competence or environmentally-based outcomes. Disconnect between the needs assessment, engagement and outcomes must be evaluated (see next section and Chapter 6) and modifications made to ensure future programming is more successful.

Step 9: Final Evaluation

Evaluation is one of the most critical steps in the cycle of programme development. Evaluation allows practitioners to play a proactive rather than reactive role (Marrs & Helge, 1978) when dealing with barriers, moderators, and mediators to engagement. Hiebert et al. (2001) explains that the evaluation process occurs concurrently with each programme component – assessing the quality in the activity and engagement stage, identifying barriers and creating strategies, determining mediators and moderators – to adjust programme priorities and create a feedback loop for the eventual final evaluation which consolidates all the data for dissemination. The final evaluation informs developers and practitioners of necessary modifications to the activity structure, the engagement, and the programme quality. Chen (1990) and English and Kaufman (1975) also indicate the importance of involving stakeholders beyond active involvement in the programme development and implementation. Many times this final evaluation is organized into a report and released to stakeholders and posted to the website as a marketing tool and to ensure transparency of the programme processes. Stakeholders can learn from previous successes and near misses that would otherwise be potentially repeated. This resulting report also aids in the continuity of a program through staffing turnover by providing a summary of what programme elements worked, what did not, and suggestions of how to make improvements to the ongoing programming.

As for the three organizations' final evaluations, Reduce the Juice has completed evaluation reports for all of the projects done in schools and with the communities; SYC's website has posted a news update indicating that a "database of campus sustainability projects, resources, groups and research" will soon be launched; and this paper is offering the EAC valuable considerations for the final evaluation of the YAC: ATACC pilot programme.

Summary

       With a new model proposed, programme developers, practitioners and researchers now have a comprehensive step-by-step framework which details how to design and evaluate a successful youth-based environmental engagement programme. Findings from the literature review, primary and secondary data, and the case studies are condensed into a 'Guideline for Best Practices: Considerations for Programme Development and Evaluation' table (**Table 4**, p. 62). This table informs each component of the YEEP model, but should be considered in light of each unique programme's situation.

Chapter 6: CONCLUSIONS

'In the end we will conserve only what we love;
we will love only what we understand;
and we will understand only what we have been taught.'
(Baba Dioum, 1968)

Youth express feeling disenfranchised with environmental sustainability initiatives as communities typically have not provided a place their perspectives, ideas and efforts. Environmental education has contributed to this detachment by highlighting ecological problems to students who often do not have the grounding of positive nature experience or knowledge of how to take meaningful action. It is critical to avoid apathy and eco-phobia in the younger generation and research has shown that youth engagement opportunities which build adult-youth partnerships and youth s' active involvement can help foster active ecological citizenship. In merging the literature from environmental education and youth engagement, this thesis uncovered three critical elements of successful youth-based environmental engagement programme design which address these concerns and promoted a culture of sustainability: active involvement, education, and action competence. Researchers, developers, and practitioners alike have been particularly supportive of this concept, as seen through the explosion of relevant academic literature and world-wide movements such as the Decade for Education for Sustainable Development (DESD).

This thesis has also answered the call for more research on the design, implementation and evaluation processes of non-formal youth-based environmental engagement programmes. In analyzing and modifying Riemer et al.'s YEEP model and Development and Evaluation Table (see **Appendix A**, p. 98), the proposed step-by-step process has been informed by real-life applications, case studies, and extensive literature reviews. Successful youth-based environmental engagement programmes are designed with many unique complexities which makes it difficult to pin down a rigid 'this-is-how-it's-done' best practices list. Instead, this thesis has attempted to gather information from other research and practitioners' experiences to plot out a comparison guideline of what has worked for other programmes. The framework which evolved expanded the once 5-step YEEP model (**Figure 3**, p. 10) into nine main components and a correspondingly altered Guideline for Best Practice: Considerations for Development and Evaluation table (**Table 4**, p. 62).

From this thesis' findings, practitioners, programme developers, and researchers alike are urged to carefully consider (a) the balance between their programme goals/objectives and engagement structure to ensure effective experiences and outcomes for all stakeholders; (b) the specific target audience; (c) available organizational resources, (d) the quality of their programme activities and engagement methods; and (e) what unique mediating and moderating factors may impact the individual, social, systemic and environmental outcomes. When using

this best practices guideline (**Table 4**, p. 62), this researcher suggests casting a critical eye for what pertains to each individual situation because there is no 'one size fits all' in youth-based environmental engagement programme design (MacKinnon et al., 2007; Riemer et al., 2013).

Future Research Priorities

This final section is dedicated to identifying future research priorities and to guiding further examination of this thesis' findings in order to strengthen and advance the youth-based environmental engagement discussion. Taking into account the limitations of this research in terms of keeping within a manageable scope and those outlined in Chapter 3, the following are the recommended priorities for next steps and future research to consider:

1. **Test and solidify the modified YEEP model components and the best practices guidelines.**
   With no demonstrated action-based environmental outcomes from a YEEP-designed real-application programme it is necessary to consider if possible flaws exist in the model itself.
   a. ensure the YEEP model has a strong foundation in producing environmental and action competence outcomes
   b. create a better understanding of the correlating relationship between different levels of youth decision-making and achieving environmental change goals
   c. examine the research gap which exists to determine the effects of the mediating and moderating factors
   d. evaluate the benefits and drawbacks of institutionalizing a programme within another organization
   e. determine if volunteer-led programming can be effective by assessing the impact of funded versus non-funded on the quality of programmes.
   f. clarify whether the theories of Scenario Planning and Community-Based Social Marketing are, in fact, the best theories to use to plan strategies for youth-based environmental engagement programmes

2. **Establish quality indicators of 'active ecological citizenship' in youth-based environmental engagement programmes.**
   Examine what kinds of environmental actions and action-based activities best suit youth-based environmental engagement programming to produce action competence and contribute towards a culture of sustainability.

3. **Reflect on the impacts and analyze the results of the Decade for Education for Sustainable Development (DESD)**
   With the decade having just been completed, the impacts and results should be assessed to determine if the goal – "to integrate the principles, values, and practices of sustainable development into all aspects of education and learning" (UNESCO: ESD Mission, n.d., para.

1) – was accomplished and what next steps are necessary to continue creating a culture of sustainability.

Recommendations to EAC

The pilot YAC: ATACC programme should be seen as a positive learning experience for the Ecology Action Centre in their journey towards building effective environmental engagement programming for youth in the Halifax Regional Municipality. Three key recommendations are offered to the Ecology Action Centre to provide direction on their final evaluation of the YAC: ATACC pilot programme:

1. **Tension between whether the youth engagement or the environmental goals were of greater priority and which should present themselves most strongly in the program objectives (and program delivery).**
   YAC: ATACC failed to achieve significant environmental outcomes or produce action competence because strong environmental change goals were not part of the program design. Recommended inclusion of specific environmental outcomes that support the environmental goals of the EAC
   a. Address the original need identified by Joanna and Emily – "strategies to deal with emails and phone calls from young people who desired to contribute in some way, but were unable to due to a lack of support and structure at the EAC".
   b. In order for YAC ATACC participants to be volunteers of EAC, they should contribute to the broader environmental core aims of the EAC. This would lead to a YAC: ATACC programme which answered youth's call for participatory volunteer engagement in meaningful environmental action-based projects, rather than simply engaging youth as participants in a programme

2. **Determine the balance between decision-making autonomy and achieving the identified stakeholder needs, the programme objectives, and end-outcomes.**
   This is critical to the failure of YAC: ATACC in significantly fulfilling the goal of action competence as youth gradually shifted toward nature experience instead of an environmental action initiative such as the one first outlined. The balance between programming goals and objectives and the engagement structure must always be carefully examined in order to ensure the most effective experiences and outcomes for all stakeholders. Facilitators should be aware of the limitations of the target audience from a child development standpoint and must be sensitive to appropriate methods and timings for listening, supporting, and guiding. There is a fine line leaders walk between dictating tasks and providing enough direction for the youth to be able to make their own informed decisions and still feel success through their efforts.

3. **Conduct a Final Evaluation**

This thesis suggests that the methodology for addressing all the limitations of the programme is to systematically run through each step of the above modified YEEP model, reflecting on each component and making comparisons to the best practices list (**Table 4**, p. 62). This type of review will produce data which can be compiled into a final evaluation report to be disseminated to all stakeholders, including participants, parents, EAC staff and administration and potential future funders. Most importantly, this report can be used by future youth-based environmental engagement programmes, both at the EAC and elsewhere, to learn from engagement elements which were successful and areas which need improvement.

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Table 1. Considerations for program development and evaluation.

Framework component	Description	Considerations for program development	Considerations for evaluations
1. Engagement activity/programme			
Objectives	Programmes' primary focus can be on the participants themselves (e.g. learn about nature) or engage the participants to focus on activities that are targeting changes in the participants' social context (e.g. organize community events)	Which objective(s) should the programme focus on? What types of engagement activities have been shown to be effective for each type of objective?	What are the specific objectives of the program? What program components are linked to which objectives? If there are instrumental objectives, who is the specific target and how will these objectives be assessed?
Structure	Programmes can be organized to be short and intensive (e.g. a conference or youth summit) or be spread over time	Is the goal of the activity to be initial engagement that will lead to other engagement activities or should it be a sustained activity that requires more time and repeated contact?	How can the participation be tracked in either type of program?
	Also, youth involvement in leadership and decision making can be range from being primarily a participant to full ownership of the programme	Is the goal to reach many youth with a less intensive programme or fewer youth with a more intensive one? How is the structure linked to the objectives? What resources are available for either type of programme? How much power will the youth have? What type of decisions will they be able to make? How can youth be engaged in and prepared for their leadership roles? What will be the nature of the youth-adult relationships? How will the adults be prepared to share leadership with youth? How can youth feel ownership over the programme?	What type of changes within the participants can be expected in a short and intense programme vs. a longer one? How can the social diffusion and long-term impact of a short and intense programme be measured? What is the leadership structure of the programme? How is the leadership structure linked to the level of youth engagement? How is the leadership structure influenced the nature of the programme? Are programmes with certain leadership structures more effective than others?

(Continued)

Table 1. (*Continued*).

Framework component	Description	Considerations for program development	Considerations for evaluations
Quality	Programmes differ in regard to the degree to which they incorporate best practices such as power sharing, setting short-term measurable goals, providing positive social support and role models, and opportunities for growth and personal development	What are best practices for youth engagement in the environment? What is the level and nature of evidence available? In what cultural context were previous programmes tested and to what degree does it fit with the current cultural context? What kind of indicators can be developed to check quality of the programme over time?	Should an evaluability assessment be conducted to check if the theory of change has even a chance of being successful given the existing empirical knowledge? Could a formative evaluation support further program development to increase quality? What type of quality indicators exists for the programme? Do they need to be developed? How will the quality of the programme be assessed? Are there existing measures of quality that the programme organizers currently use? Are the programme organizers interested in measuring quality continuously? Are the certain programme components that are considered more critical than others? How is the quality of the programme linked to outcomes?
2. Engagement process			
Intensity	Youth might be engaged quite frequently in a programme, sporadically or even just once Different strategies can be used to engage youth at an affective, cognitive, spiritual or behavioural level. Some programmes cover	What is the desired intensity of participation? Will this program require a lot of time from participants or just a very limited commitment? What will the target youth be able to commit to?	What is the perceived needed dosage for the programme to be successful?

(*Continued*)

Table 1. (Continued).

Framework component	Description	Considerations for program development	Considerations for evaluations
	all of these areas while some focus only on one or two	Are there different times in the year (e.g. the summer) when youth can commit more time than in others? Are there programme components for all levels of engagement or should the programme just focus on one or two? Which programme components target which areas? Which type of engagement (e.g. affective) should come first?	Which programme components target which areas? How can the success of the different engagement strategies (affective, cognitive, etc.) be measured?
Breadth	Programmes can have just one type of activity (e.g. structured learning sessions) or many different kinds of activities	What types of activities are needed to meet the objectives? Should the programme be focused on one activity and do that really well or is variety more important to keep youth engaged? How many different activities can realistically be offered? What are the needed skills and resources?	What types of activities are linked to a specific activity? Are all of these activities considered critical or is there a hierarchy of importance? How are specific activities believed to be linked to specific anticipated outcomes? Is there a clear theory of change?
Duration	Some youth stay involved with a programme or organization for a long time while others come to only one event. Also, there can be significant differences in regard to how much time youth devote to being involved	How long should the youth stay involved at a minimum for the programme to be effective? If longer engagement is needed or desired, how will motivation be sustained? How can the youth loyalty to the organization be developed? Are their different, more complex roles that the youth can take over time (e.g. become a group leader)?	Is there a dose-response relationship? What is the expected duration? How long does a youth need to be involved before a measurable impact can realistically be expected?

Table 1. (*Continued*).

Framework component	Description	Considerations for program development	Considerations for evaluations
3. Initiating and sustaining factors			
Individual	Youth become and stay engaged for many different reasons including individual factors such as religious and moral believes, prior experience, perceived instrumentality	What types of youth is the programme supposed to attract? To what degree does the nature of the programme reflect that?	What are the characteristics of the youth involved?
		Is the programme targeting youth who are already highly motivated or is the goal to create motivation among those who are still unsure?	Are there certain groups that are more engaged than others?
		What individual level factors can be targeted to engage youth in the programme?	Does the programme work better for certain types of groups than for others?
		How does the programme reach out to different types of youth?	
Social	There are also social factors that play a role in the motivation to become and stay engaged. Family and peer role models, for example, can be highly influential. Positive relationships within the programme are often critical in keeping youth engaged over time	Does the programme provide positive role models (e.g. peer facilitators)?	What are the key motivating factors for youth to join and stay engaged?
		Do the programme organizers encourage active recruitment from the participants social network?	What are the perceptions of the social atmosphere within the programmme/ organizations?
		What type of social media (twitter, facebook, etc.) is being used to make recruitment within the youth's social networks easy?	How do people hear about the programme?
		What types of social activities that foster positive relationships exists?	
		Have ground rules for positive social interactions being established?	What are the most successful recruitment strategies?
		How are conflicts being dealt with?	
System	Factors in the larger context of the programme are also linked to motivation. This includes integration of the programme	What are the links of the programme to a larger purpose?	Are youth externally or internally motivated to participate?

(*Continued*)

Table 1. (*Continued*).

Framework component	Description	Considerations for program development	Considerations for evaluations
	into school activities or requirements and to what degree the youth perceive the activity as being relevant and being connected to a larger purpose including fighting environmental degradation	How will the programme's success lead to accomplishing a higher-level goal? What will the youth's contribution to that be? Can the programme be integrated into or linked to a school or university programme? Can initial participation be required?	Does it make a difference what the locus of motivation is? If the programme is integrated into another programme., how can the unique contribution be assessed?
4. Outcomes of engagement			
Individual	Participating in youth programmes can have a positive impact on individuals such as better success in school, improved self-confidence and reduction of alcohol and drug use	What are the programme's anticipated individual-level outcomes? Are there specific activities in place that can lead to the anticipated individual outcomes? How are these activities leading to the individual outcomes?	What are the programme's anticipated individual-level outcomes? What is the theory of change that links program activities causally with anticipated outcomes? How can outcomes be measured? After how much time can these outcomes be expected? To what degree have individual-level outcomes been accomplished?
Social	Programmes can also help participants to develop important social skills and provide positive social relationships and support	The same questions as for the individual-level outcomes apply	The same questions as for the individual-level outcomes apply
System	Outcomes can also be related to the broader social context such as increased civic engagement and creating a culture of conservation	The same questions as for the individual-level outcomes apply	The same questions as for the individual-level outcomes apply

Note: We have not included a section specifically on mediators and moderators in this table but, rather have disbursed relevant questions amongst the other four parts of the framework.

APPENDIX B: ORE Approved Research Materials

<u>**Parent Information Letter**</u>

Environment and Resource Studies, 200 University Ave W, Waterloo, ON N2L 3G1

March 7, 2014

Dear Parent/Guardian:

This letter is an invitation to consider allowing your son/daughter to participate in a focus group which is being conducted at the Ecology Action Centre, 2705 Fern Lane. I would like to provide you with more information about this project and what your youth's involvement would entail if they should decide to take part.

First, I would like to thank-you for your interest and consideration of participating in this focus group. This is an exciting opportunity for youth (ages 9-18) to get involved in the creation of a new environmental program! Once the program design has been solidified, a pilot program will be launched. Your youth is welcomed and encouraged to participate in both the design and pilot program sessions.

A series of two focus groups has already taken place which engaged the youth in contributing their interests and expertise to the design of a youth-based environmental engagement pilot project which the Ecology Action Centre will be launching March 19th, 2014. The youth shared their personal interests, ideas, and needs which will be built into the structure of the program. They worked as a group to design the environmental initiative focus, the schedule, different weekly activities, and an achievable, tangible end project for the pilot program. The focus groups were audio recorded to facilitate collection of information, and will later transcribed for analysis. This form gives permission for these recordings to be confidentially and anonymously used in my thesis research.

If you and your youth decide to take part in this study there are some different things I will ask your youth to do. First, I would like your youth to take about 20-30 minutes to complete a questionnaire. I would also really like to meet with your youth and chat about his/her interests in the environment and what they've done so far in the HRM community. There are no right or wrong answers; it is what your youth thinks that matters. If they have tried their best and do not know what to say or do next, they can guess or say 'I don't know'. Once the program has run, I will ask your youth to complete another similar questionnaire to see if any of their answers have changed after participating in the Ecology Action Centre's YAC ATACC program. I'd also like to meet with your youth once more to chat about their experience in participating in a program

which they helped design and see what would support them in becoming involved long-term in environmental initiatives around the HRM community.

There are no known or anticipated risks to your youth's participation in these sessions or any of the research processes. Youth may decide to withdraw from this focus group, thesis research and pilot program at any time without any negative consequences by advising me. (S)he may decline answering any questions they do not wish to answer and may decline contributing to the session in other ways if they so wish. If your youth wants to participate in only the focus groups or only the program that is okay.

All information collected is considered completely confidential except as required under law to report. To support the findings of these focus groups, quotations from the focus groups could be reported anonymously. Your [son/daughter's] name will not appear in any thesis or reports resulting from these focus groups. All paper forms and electronic forms of data collected during this study will be retained with no personal identifiers in a locked location. Given the group format of this session we will ask you and your youth to keep in confidence information that identifies or could potentially identify a participant and/or his/her comments.

Summary of Events:

    a. Focus Groups (At the Ecology Action Centre)
    b. Questionnaire (20-30 minutes)
    c. Individual Interview (15-25 minutes)
    d. Pilot Program (tentative start date: March 19th)
    e. Questionnaire (20-30 minutes) at end of Pilot Program
    f. Individual Interview (15-25 minutes) at end of Pilot Program

I would like to assure you that the final decision about your youth's participation is yours. If you have any questions regarding these focus group sessions, or would like additional information to assist your family in reaching a decision about your youth's participation, please contact me at (902) 692-1405 or by email at breagan@uwaterloo.ca.

I hope that the results of this focus group will be of benefit to the youth directly involved in the study, other families whose children later participate in the pilot program, and the broader HRM community. I very much look forward to speaking with you and your youth and thank you in advance for your assistance in this program.

Yours Sincerely,

Bekah Reagan

Master's Candidate
Department of Environment and Resource Studies
University of Waterloo, Ontario
902-692-1405
breagan@uwaterloo.ca

Parent Permission Form for a Minor

I have read the information presented in the information letter about the two focus groups being conducted by the Ecology Action Centre and Bekah Reagan of the Department of Environment and Resource Studies at the University of Waterloo, under the supervision of Professor Jennifer Lynes. I have had the opportunity to ask any questions related to this study, to receive satisfactory answers to my questions, and any additional details I wanted.

I am aware that my youth will participate in the study if he/she agrees to participate and I agree to his/her participation.

I acknowledge that all information gathered on this project will be used for research purposes only and will be considered confidential. I am aware that permission may be withdrawn at any time (by either the parent and/or the youth) without penalty by advising the researchers.

Participant's Name: _____

Participant's Age: _____

Gender of Participant: ___ Male   ___ Female

I agree to my youth's participation in the series of two focus group sessions. I will keep in confidence information that could identify specific participants and/or the information they provided.

□ YES □ NO

I agree to have my youth's focus group sessions audio recorded to ensure an accurate recording of his/her responses.

□ YES □ NO

I also agree to the use of anonymous quotations in any thesis or publication that comes of this research, with the understanding that all quotations will be anonymous.

□ YES □ NO

Name of Parent or Guardian: _____ (Please print)

Signature of Parent or Guardian: _____

Date: _____

Participant Information Letter

UNIVERSITY OF WATERLOO
FACULTY OF ENVIRONMENT
Department of Environment and Resource Studies
200 University Ave W, Waterloo, ON N2L 3G1

Dear Participant:

I invite you to participate in an exciting study to help create and then participate in a new environmental program for youth! My research is trying to understand what you think is important to include in a youth-based environmental engagement program for you and others your age. I am conducting this study as part of my Master's degree in the Department of Environment and Resource Studies at the University of Waterloo under the supervision of Professor Jennifer Lynes. I am going to spend a few minutes telling you about my project, and then I am going to ask you if you are interested in taking part in the project.

<u>Who am I?</u>
My name is Bekah Reagan and I am a masters student at the University of Waterloo. I work in the Department of Environment and Resource Studies.

<u>Why am I doing this study?</u>
I want to find out if youth who help in the design of a program, such as the Ecology Action Centre's Youth-based Environmental Engagement program, become invested and committed to the program and other environmental initiatives. Further, I would like to see if being involved in the design process causes a personal growth of skills which aids towards becoming active ecological citizens in the community.

<u>What will happen to you if you are in the study?</u>
If you decide to take part in this study there are some different things I will ask you to do. First, I would like you to take about 20-30 minutes to complete a questionnaire. I would really like to meet with you and chat about your interests in the environment and what you've done so far in your community. A focus group has already taken place which has helped determine the focus of the youth engagement program which will be run in a few weeks. I have audio recorded these group sessions and would like your permission to be able to use our conversations for my research. There are no right or wrong answers; it is what you think that matters. If you have tried your best and do not know what to say or do next, you can guess or say 'I don't know'. Once the program has run, I will ask you to complete another similar questionnaire to see if any of your answers have changed after participating in the group planning sessions and in the program. I'd also like to meet with you again and chat about your experience and see if you've become more involved in environmental initiatives.

<u>Could there be any problems for you if you take part?</u>
I hope you will enjoy talking to me. A few people can get upset or uncomfortable when talking about the current environmental issues, and if they want to stop, I stop. I can put them in touch with someone to help them, if they wish.

<center>106</center>

<u>Will you have to answer all questions and do everything you are asked to do?</u>
If I ask you questions that you do not want to answer, then tell me you do not want to answers those questions. If I ask you to do things you do not want to do then tell me that you do not want to do them, such as completing the questionnaire.

<u>Who will know that you are in the study?</u>
The things you say and any information I write about you will not have your name on it. I will change your name, so no one will know they are your answers or how you feel about some of the things that we will talk about.
I will not let anyone other than my teacher/advisor see your answers or any other information about you. Your parents, brothers and/or sisters, and friends will never see the answers you gave or the information I wrote about you.
The only time I might have to break this promise is if I think you or someone else might be at risk of being hurt. If so, I will talk to you first about the best thing to do.

<u>Do you have to be in the study?</u>
You do not have to be in the study. No one will get angry or upset with you if you don't want to do this. Just tell us if you don't want to be in the study. And remember, if you decide to be in the study but later you change your mind, then you can tell me you do not want to be in the study anymore. If you want to just participate in the focus groups or just the program that is okay. However, to be a part of my study you need to participate in focus groups to build the program and then attend the program sessions.

Summary of Events:
   a. Focus Groups (At the Ecology Action Centre)
   b. Questionnaire (20-30 minutes)
   c. Individual Interview (10-15 minutes)
   d. Pilot Program (tentative start date: mid-March)
   e. Questionnaire (20-30 minutes) at end of Pilot Program
   f. Individual Interview (10-15 minutes) at end of Pilot Program

<u>Do you have any questions?</u>
You can ask questions at any time. You can ask now or you can ask later. You can talk to me or you can talk to someone else at any time during the study. Here is the telephone number and email address that you can reach me at: breagan@uwaterloo.ca or (902) 684-0003.

Thanks for all your help,

Bekah Reagan

Consent Form

Participant's name, printed: _____

Participant's Age: _____

Participant's Gender: _____ Male _____ Female

I agree to participate in an entrance/exit questionnaire, in the series of two focus group sessions, and two confidential individual interviews. I will keep in confidence information that could identify specific participants and/or the information they provided.

□ YES □ NO

I agree to have my interview and focus group session audio recorded to ensure an accurate recording of my responses.

□ YES □ NO

I also agree to the use of anonymous quotations in any thesis or publication that comes of this research, with the understanding that all quotations will be anonymous.

□ YES □ NO

Participant's Signature: _____

Date: _____

Signature of the Researcher: _____

Date: _____

<u>**Email Recruitment Script**</u>

Hello from the Ecology Action Centre Youth Action Group!

 I'm writing to let you know about two exciting new opportunities for teens here at the Ecology Action Centre. A **new youth volunteer program** is being designed which aims to be student-led with a focus on 'learning-by-doing'. You can hang out with other youth who care about the environment, learn about interesting environmental topics, and find new ways to take action about the issues that are important to you. **You'll have the opportunity to learn awesome things while having a real impact in the Halifax community.** This program will be run once a week from mid-February until May 2014.

 Interested in the program? Why not help to actually invent it?! Two focus groups will be held on January 27th and February 3rd at the Ecology Action Centre. The focus groups will be run by a volunteer facilitator who will help guide you in the program design process, so the program can be engaging and relevant for other youth. The facilitator will be there as a leader to support you as you rise up as leaders in environmental initiatives and community building. **If you've got creativity and leadership skills, come join our focus group sessions to help dream up the most awesome teen environmental program that has ever existed!**

This email is being sent on behalf of Bekah Reagan, a masters student at the University of Waterloo. For further details on this exciting program and to get involved, please contact Bekah Reagan at breagan@uwaterloo.ca.

 Let's make something great together!

Cheers,

Joanna

Verbal Recruitment Script for Telephone Conversations

Hello, my name is Bekah Reagan and I'm a graduate student with the University of Waterloo. I'm doing research on Building Active Ecological Citizenship in Home-Schooled Youth through Participation in Non-Formal Environmental Engagement Program Design Processes. I am working in collaboration with the Ecology Action Centre to build a youth-based environmental engagement pilot program which will be launched in early February. I would like to send you some information explaining my research in hopes that you might circulate it to the youth and families involved with your organization. If you or any of the youth/parents have any further questions or would like to participate in this exciting program, please don't hesitate to contact me by either email (breagan@uwaterloo.ca) or by phone (902-692-1405).

Thanks!

Possible Questions:

- What events do you run with homeschooled youth?
- Would there be opportunities to attend some of the activities/events to recruit some of the homeschooled youth for my research?

We are looking for youth (ages 9-18) to help create a **NEW** Youth-based Environmental Engagement Volunteer program!

What are **YOU** interested in, what activities do **YOU** want to do, and how do **YOU** want to take action?

Bring your creativity and leadership skills to dream up the most awesome youth environmental volunteer program that has ever existed!

February 19th and 26th : 3:30-5:30
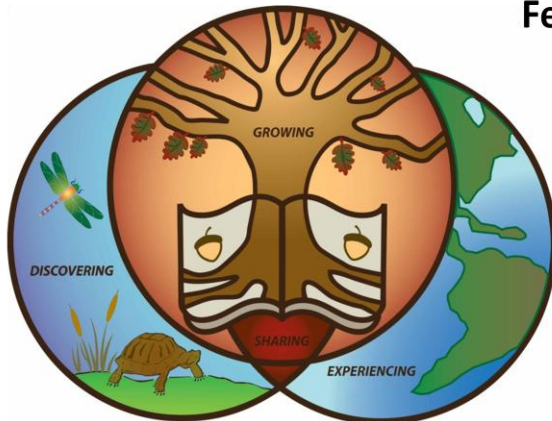
For more information, or to get involved, please contact **Bekah Reagan at breagan@uwaterloo.ca or 902-692-1405.**

UNIVERSITY OF WATERLOO
FACULTY OF ENVIRONMENT
Department of Environment
and Resource Studies
200 University Ave W, Waterloo, ON N2L 3G1

ECOLOGY ACTION CENTRE YOUTH-BASED

ENVIRONMENTAL ENGAGEMENT

PROGRAM - 2014

Ecology
Action
Centre

Application Form

Yes! My youth is between the ages of 9-18 and would like to participate in the youth engagement program this winter.

Participant Name - First, Middle, and Last: _____

Age: _____

Participant Contact Information

Home phone #_____ Cell Phone #_____ Email_____

Home address _____

Guardian #1 (The best adult to contact: Mom, Dad, Grandma, etc.)

Name _____Relationship to participant_____

Address _____

Home phone # _____ Cell phone # _____ Email _____

Guardian #2 (A second adult we can contact)

Name _____ Relationship to participant_____

Address _____

Home phone # _____ Cell phone # _____ Email _____

Please list ALL other relevant phone #'s and to whom they belong:

Participant Signature: _____Date: _____

Parent/Guardian Signature: _____ Date: _____

Return this form to the Ecology Action Centre at 2705 Fern Lane, Halifax, NS,
info@ecologyaction.ca **or Bekah Reagan at** breagan@uwaterloo.ca**.**

Once received, youth and parents/guardians will be sent a paperwork packet that must be completed prior to beginning of program.

Volunteer & Facilitator Declaration of Non-Disclosure

UNIVERSITY OF WATERLOO
FACULTY OF ENVIRONMENT
Department of Environment
and Resource Studies

200 University Ave W, Waterloo, ON N2L 3G1

I acknowledge that, in my capacity as a volunteer (or staff/employee) of the EAC Youth Engagement focus group sessions, I will have access to certain confidential information. This information includes, but is not limited to the following: files, data books, diagrams, records, studies, protocols, reports, draft publications, interviews, surveys, samples, schedules, appraisals, computer programs, and statistical information. Confidential information may be oral, written, or electronic.

I understand that all EAC Youth Engagement focus group session volunteers (or staff/employee) must sign a Declaration of Non-Disclosure when they commence their association with the EAC Youth Engagement focus group sessions. This includes undergraduate and graduate students conducting research within the EAC Youth Engagement focus group sessions and temporary members or visiting faculty from other institutions. Under this declaration, members consent to keep all matters to which they are privy related to all projects being conducted at the EAC Youth Engagement focus group sessions confidential.

I agree that during my association with the EAC Youth Engagement focus group sessions and for a period of five years after termination of employment or association with the EAC Youth Engagement focus group sessions, I shall not disclose to any other person, firm or corporation, any confidential information relating to any projects, other than for the specific purposes required by my duties within the EAC Youth Engagement focus group sessions, without previous consent in writing from the primary researcher, Bekah Reagan, or her supervisor, Jennifer Lynes.

I also understand that I am required to notify Bekah Reagan or Jennifer Lynes immediately of any breach of my obligations or conflict of interest under this agreement which comes to my attention.

By signing and returning a copy of this document to the Bekah Reagan or Jennifer Lynes, I confirm my understanding and acceptance of the above clause and will comply with these clauses. I also agree that my obligation to comply with the above will survive my termination of association with the EAC Youth Engagement focus group sessions for a period of five years.

Signed: _____   Witness: _____

Name (printed): _____   Date: _____

CONFIDENTIALITY STATEMENT

I understand that as a facilitator for a study being conducted by Bekah Reagan of the Department of Environment and Resource Studies, University of Waterloo under the supervision of Professor Jennifer Lynes, I am privy to confidential information. I agree to keep all data collected during this study confidential and will not reveal it to anyone outside the research team.

Name: _____ Signature: _____

Date: _____ Witness Signature: _____

UNIVERSITY OF WATERLOO
FACULTY OF ENVIRONMENT
Department of Environment
and Resource Studies

200 University Ave W, Waterloo, ON N2L 3G1

Project Title:	Building Active Ecological Citizenship in Home-Schooled Youth through Participation in Non-Formal Environmental Engagement Program Design Processes: A Case Study of the YEEP Model
Student Investigator:	Bekah Reagan, Environment and Resource Studies, breagan@uwaterloo.ca
Faculty Advisor:	Jennifer Lynes, School of Environment, Enterprise and Development, jklynes@uwaterloo.ca, (519) 888-4567

We appreciate your participation in our study, and thank you for spending the time helping us with our research!

In this study you participated in an entrance and exit questionnaire, two individual pre- and post-interviews, as well as a series of two focus groups designing a youth-based environmental engagement program for the Ecology Action Centre. The purpose of this study was to evaluate if participation in non-formal youth-based environmental engagement program design processes contribute to development of action competence and leadership skills building towards active ecological citizenship in home schooled youth (ages 9-18).

In this case, the study conducted an entrance and exit questionnaire, as well as two short interviews, which examined past and current environmental activities and actions, personal reasons for doing environmental initiatives, confidence in personal ability to engage in the community initiatives, risk perception of global climate change, and personal thoughts about nature. In the study, focus groups were used to involve homeschooled youth (ages 9-18) in the design process of a youth-based environmental engagement pilot project for the Ecology Action Centre. The focus group discussions and interviews were audio taped and then evaluated to determine what components of a program are important to encourage youth-engagement in environmental initiatives for this target audience.

It is expected that overall, when youth contribute and are involved in the development of a youth-based environmental engagement program they become invested and committed to the

program. This process causes a personal growth of skills which aids towards becoming active ecological citizens in their community.

All information you provided is considered completely confidential; indeed, your name will not be included or in any other way associated, with the data collected in the study. Furthermore, because the interest of this study is in the average responses of the entire group of participants, you will not be identified individually in any way in any written reports of this research. Paper records of data collected during this study will be retained indefinitely in a locked filing cabinet in EV2 2027, to which only researchers associated with this study have access. Electronic data and audio recordings will be kept indefinitely on a secure computer in a locked room in EV2 2027, to which only researchers associated with this study have access. All identifying information will be removed from the records prior to storage.

This project has been reviewed by, and received ethics clearance through a University of Waterloo Research Ethics Committee. In the event you have any comments or concerns resulting from your participation in this study, please contact Dr. Maureen Nummelin, the Director, Office of Research Ethics, at 1-519-888-4567, Ext. 36005 or maureen.nummelin@uwaterloo.ca.

If you think of some other questions regarding this study, please do not hesitate to contact Bekah Reagan.

We really appreciate your participation, and hope that this has been an interesting experience for you.

References (related studies that may be of interest to you):

Riemer, M., Lynes, J., & Hickman, G. (2013). A model for developing and assessing youth-based environmental engagement programmes. *Environmental Education Research*, (November 2013), 1–23. doi:10.1080/13504622.2013.812721

Jensen, B. B., & Schnack, K. (1997). The Action Competence Approach in Environmental Education. *Environmental Education Research*, *3*(2), 163–178. doi:10.1080/1350462970030205

APPENDIX C: Focus Group Materials

Day 1 (January 15th) – Orientation

Location – Ecology Action Centre, 2705 Fern Lane, Halifax, NS
Time – 4-6pm

1. Have Parents and Youth sign up for a Individual Interview time slot (on a signup sheet)

2. Personal Introductions – <u>15 minutes</u>
    - Facilitators & Schedule/Agenda/Safety of Day
    - Youth
    - Name Toss/Ecosystem Game – with yarn (Facts, Feelings, Findings, Future)

**Blue Sky Activity – imagination game
  - *No limitations*
  - *Infinite Resources*
  - *Yes, And (not But)*
  - *Things you've seen or things you haven't seen before*

Back Pocket Idea: If You Build It, Hope Blooms, Dragon Community Bike...

3. Pilot Program Overview – <u>10 minutes</u>
    - What are we actually doing and why? (leave out our Goals and Objectives for now)
    - Outline general scaffolding of program already in place
        i. Facilitator will have this written up on Flip-Chart paper. There will be blanks where youth will be giving input and making design decisions.

<u>*Primary Environmental Focus*</u> **Youth give input*
General Schedule:
  - *Everyone meets at EAC <u>once a week for two hours</u> *Youth give input*
  - *Quick discussion of day's <u>activity</u> *Youth give input*
  - *Excursion in order to do <u>activity</u> *Youth give input*
  - *Meet back at EAC for parent pick-up*
<u>*Program Tangible End Goal*</u> **Youth give input*

4. Facilitator Goals and Objectives – <u>10 minutes</u>
    - BIG G & O (Create a fun, environmentally educational program to help youth get engaged in their community)
    - little g & o (Leave No Trace, Self, Community, Simple Living)

5. Questions? – <u>5 minutes</u>

6. Environmental Focus Options for Youth – <u>50 minutes</u>
    - Tour of EAC departments with a quick overview of each focus area option (canvassers? – maybe Sylvia?)

    a. **Built Environment** – encourage ecologically sustainable, affordable and healthy building design and construction, and promote urban planning and design in harmony with the natural and social environment.
    b. **Coastal and Water** – address threats to coastal and freshwater resources through research, education, engagement, mobilization, and collaboration.
    c. **Energy** – promote policies and practices that prioritize sustainable energy for the benefit of Nova Scotians and the future of our province.
    d. **Food –** celebrate and encourage the consumption of local, ecologically produced foods and support efforts to be more self-reliant in food within Nova Scotia.
    e. **Marine** – work locally, nationally and internationally towards conserving and protecting marine ecosystems and maintaining sustainable fisheries and vibrant coastal communities.
    f. **Transportation –** improve sustainable transportation options in Nova Scotia, such as cycling, walking, carpooling and public transit.
    g. **Wilderness –** focus on wildland and forest conservation, and ecosystem-based forest management.
    h. **Bird Conservation** – works to protect birds.

7. Youth Expectations and Goals – <u>10 minutes</u>
    a. Hand out paper and pens to youth (sticky notes – different colours to represent different questions; find themes)
    b. Find out individual environmental interests – facilitator's reflect on this after and prepare ideas for the next focus group.
    c. Write or Draw:
        ii. One skill you have which you think is important for this experience
        iii. One thing you'd like to learn from this experience
    d. Ask youth to share their goals and expectations
    e. Post on wall to show overall goals/expectations of program

8. Summary of Day & Teaser of Next Session – <u>5 minutes</u>

Day 2 & 3 (January 22nd & 29th) – Designing Pilot Program

1. Quick re-introductions

2. Environmental Focus Options for Youth
   - Facilitators prep for this from sticky notes and Blue Sky discussions in first focus group. Think outside the box on Fern Lane …Sierra Club, Canadian Youth Climate Coalition, etc…what's in your community that you'd like to affect? Earth Day? World Ocean's Day?

3. Facilitate Discussions
   a. Which topic to focus on for program? Different topic each session or more in-depth/long-term project in one topic area for entire program?

4. Long Term Goal/Tangible Outcome
   a. What would be an achievable and desirable end goal for the pilot program?
   b. What style of program? Multi-topic focus or single-focus with longer term outcomes?
   c. Facilitate group discussion while facilitator writes all ideas up on a board
   d. Discuss options until consensus is attained

5. Weekly Activities to Achieve End Goal
   a. Facilitator summarizes environmental initiative topic and end goal for youth
   b. Facilitate group discussion to come up with activity ideas while facilitator writes all ideas up on a board
   c. Organize ideas into a logical order

Name ideas for Ecology Action Club's Youth Program

- **YAC: ATTAC** (Youth Action Club: Adventure Training and Creating Coolness)
- **YAC ATTAC** (Youth Action Club: Always Trying To Act and Create)
- **YAC: ATTAK** (Youth Action Club: Aware Teens And Kids)
- **MUD** (Movement Up To Dream)
- **MUD** (Movement of Unexpected Designs)
- **MUD** (Magical Undiscovered Donkeys)
- **MUD** (My Universe of Dreams)
- **MUD** (Mostly Unsure Dopplegangers
- **MEE** (Mysterious Encounters Earth)
- **ACT** (Adventure Community Team)
- **E.C.O.Team** (Environmental Cooperation Operation Team)
- **KOTES** (Kids Of The Earth Society)

Program Focus Ideas for YAC: ATACC (from Focus Group)

Topic	Number of Times Written
Education (teaching others, getting others interested, influencing, learning about, awareness raising)	9
Action (help, stop, influence, getting youth interested through activities, make positive environmental change, build)	9
Animals (care, help, work with, or be around)	8
Waste (littering, beach/garbage clean-up, keeping city clean)	7
Children	4
Aquatic (care, aquarium, importance of water)	3
Solar Energy (learn how to use)	3
Nova Scotia related	3
Plants (gardens, green roofs, forests)	3
Fun	2
Electric (transportation, energy)	2
Transportation (impacts of today's methods, electric)	2
Ecosystem Processes (interconnectedness of systems)	1
Wind Power	1
Fracking	1
Emissions	1
Volunteer Experience	1
Social (homelessness)	1

Parameters Given to Youth at Focus Groups

Currently In Place

- **Meeting Location (pick-up/drop-off)** : EAC
- **Broad Program Focus** : Environmental Initiatives and Action/Project-Based
- **Region of Focus** : Halifax Regional Municipality
- **Age Range** : 9-18 years old

You Create!

- **Narrowed Environmental Initiative Focus**
    - What are your individual environmental interests?
    - What topic(s) do we focus on as a group?
- **Objectives of Program**
    - End-goals – what do we want to accomplish?
- **Program Project**
    - One big end project (i.e. long-term)?
    - Weekly (or bi-weekly) projects?
    - Other ideas?
- **Activities**
    - How do we accomplish the project(s)
    - How do we accomplish the 'End-Goals' and 'Objectives'

APPENDIX D: Interview Questions

YAC: ATACC Participant Interview Questions – 1st Round

Individual Personal Experiences – Creating an Individual Baseline
1. What environmental activities or initiatives/actions do you enjoy the most?
2. Do you remember when you first became aware of environmental issues?
3. Are there any other youth-based environmental engagement programs in your community which you are aware of?
4. Have you ever been, or are you presently, involved in other environmental programs or clubs? If so, which ones?

Personal Skills Development – Youth Engagement Impacts
5. What skills do you think are important to make a difference in your community and the environment?
6. Through designing YAC ATACC have you learned any new skills?
7. What skills do think you would need or would you like to develop so you would feel confident engaging in environmental activities and actions within your community?

Designing the Program – Participatory Stakeholder
8. Why did you decide to get involved in designing this program?
9. How did it make you feel to be asked to contribute your thoughts and ideas to the design of the YAC ATACC program?
10. What did you enjoy about the focus groups? Figuring out, learning about, and contributing the most?
11. What was the most challenging aspect of deciding the program focus with the group?
12. Looking back at the meetings, is there anything you would have done differently? Any ideas you would have shared or pushed for? Any other project ideas you would have liked to include in the program or you feel strongly shouldn't be included in the program?

Active Ecological Citizenship – Action Competence
13. In general do you feel your voice, and other youth ages 9-18, are heard, respected, or taken seriously by adults?
14. Can you identify other areas of your life where you have decision-making power?
15. Do you have any advice for adults working to engage youth in environmental initiatives?
16. Has being involved in the design process for this program altered how you feel about being involved in your community? In the environment and environmental initiatives? If so, how?
17. What would you need to be involved regularly in environmental programs in your community? In the YAC ATACC program?
18. What do the words active ecological citizenship mean to you? Do you think you are an active ecological citizen?

Interview Questions – 2nd Round

Individual Personal Experiences – Creating an Individual Baseline
1. Tell me about your experience with YAC: ATACC
2. Since becoming involved with YAC: ATACC, are there any other youth-based environmental engagement programs in your community which you have become aware of?
3. Have you since become involved in other environmental programs or clubs? If so, which ones?

Personal Skills Development – Youth Engagement Impacts
1. Since becoming a YAC: ATACC-er, what do you think is important in order to make a difference in your community and the environment?
2. Through designing and then taking part in YAC: ATACC have you learned anything new?
3. What do think you would need or like to develop so you would feel confident engaging in environmental activities and actions within your community?

YAC: ATACC Program – Participatory Stakeholder
1. How many sessions did you attend/miss?
2. What led you to continue attending the sessions? Were there any barriers/supports which challenged/aided you in attending?
3. What was your favorite session? Your least favorite? Why?
4. What did you enjoy about the program sessions? Figuring out, learning about, and contributing the most?
5. Looking back at the YAC: ATACC sessions, is there anything you would have done differently? Any activities you would have shared or pushed for? Any other project ideas you would have liked to include in the program or you feel strongly shouldn't be included in the program?
6. How did it make you feel to be able to choose what the YAC: ATACC-ers did the next week? Did this help you decide to continue coming to the sessions?
7. What was the most challenging aspect of deciding the session focus for the next week?
8. What constructive criticism can you offer in order to improve the next YAC: ATACC program? What could we improve/add/continue to offer?
9. What are your thoughts on how the focus of the sessions shifted from the Eco-Challenge (focus group) to the Outdoor Earth Adventure? Why did this happen? Was it a good shift? Were you still interested in the focus?
10. Would you recommend this program to any of your friends? Why or why not?

Active Ecological Citizenship – Action Competence
1. In general, do you feel your voice, and the voices of other youth, are heard, respected, and taken seriously by the adults? During the YAC: ATACC sessions?
2. Can you identify other areas of your life where you've felt you have decision-making power?
3. Do you have any advice for adults working to engage youth in environmental initiatives?
4. Has being involved in the design process and then the YAC: ATACC sessions altered how you feel about being involved in your community? In the environment and environmental initiatives? If so, how?
5. What would you need to be involved regularly in environmental programs in your community? In future YAC: ATACC programs?
6. What do the words "active ecological citizenship" mean to you? Do you think you are an active ecological citizen?
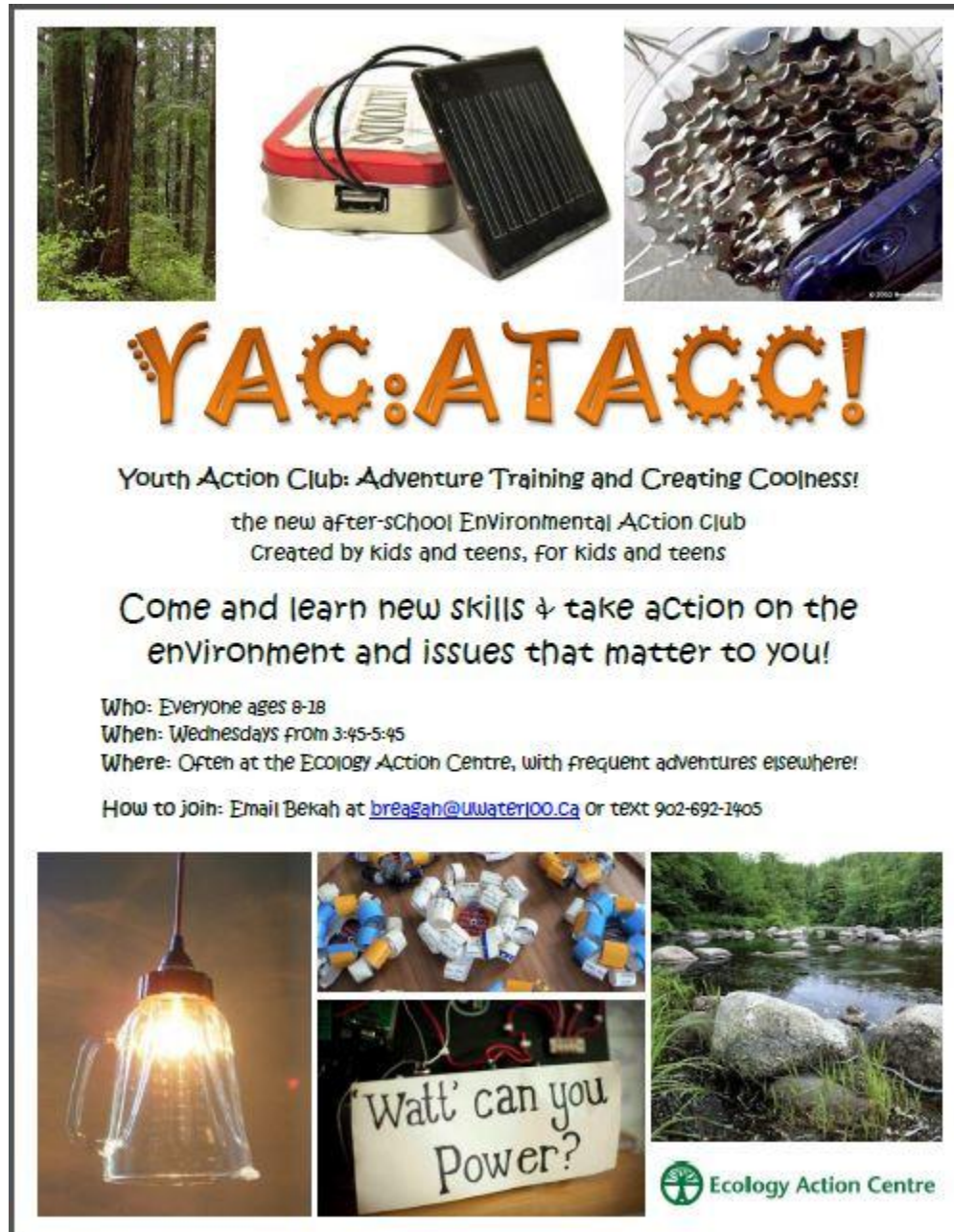
Interview Questions - Case Study
Same questions used for RTJ & SYC

1. What is RTJ?
2. What was your personal role in founding RTJ?
3. What is your thesis research?
4. What led you to take a key role in RTJ?
5. What needs were identified which led to the idea of RTJ?
6. Who were the key players in the RTJ development?
7. Do you think they were essential to the success of the first few years?
8. What are your thoughts about having youth as decision-makers?
9. What was the timeline from initial discussions to the first successfully launched RTJ event?
10. What was the founding process; the history of RTJ?
11. What was the initial organizational design?
12. How were the organizational design processes decided?
13. What key changes, shifts, or improvements in the design have occurred over the years in order to become more successful?
14. What are the strengths and weaknesses of the organization as it stands right now? How, in your opinion, would you overcome the weaknesses?
15. Looking back at the process, what have you learned?
16. What advice would you give to other organizations that are in the initial stages of launching a youth-based environmental engagement program?
17. What pitfalls/successful pointers should other organizations be aware of which you've had to learn by trial and error?
18. What aspects are, in your opinion, the most important in keeping youth engaged in an organization? In keeping the passion alive for the volunteers? The staff?
19. Explain/comment on how Reduce the Juice utilizes (or doesn't utilize) each component within the YEEP framework.
20. Would you suggest any modifications to make it more applicable to real-life programming?

APPENDIX E: YAC: ATACC Programme

Recruitment Poster

<u>EAC Activity Waiver Form</u>

Ecology Action Centre
2705 Fern Lane, Halifax, NS, B3K 4L3
902-429-2202

ACKNOWLEDGEMENT AND ASSUMPTION OF RISK

I understand that during my child's participation in the Naturalist Walk and Beach Clean-Up at Point Pleasant Park, Halifax NS, he/she may be exposed to situations and environmental conditions that may be different or more challenging than those he/she normally encounters. I also understand, that although the Ecology Action Centre (EAC) has taken precautions to provide proper organization, supervision, instruction and care for this event, circumstances may arise which are not foreseeable or which are beyond the control of the EAC. I acknowledge that the EAC cannot guarantee absolute safety.

I agree to assume all of the risks arising out of my child's participation in the Naturalist Walk and Beach Clean-Up. This includes, but is not limited to, risks that are unforeseeable (injury, dismemberment and death). I release the EAC, its contractors, employees, volunteers, agents, assigns and executors from all claims for damage however so arising as a result of my child's participation in this or any activity organized by the organization. I agree to pay the costs of any emergency evacuation of my child that may be necessary.

I affirm that I am aware of the nature of this activity, and that my child is properly equipped and physically able to participate. I have accepted responsibility to verify that my child does not have any physical or psychological problems, which would create undue risk to him/her, or others.

MEDIA PERMISSION: I give Ecology Action Centre permission to use photographic images, written material, video and/or audio that includes me or created by me for media produced and distributed by the Ecology Action Centre and its partner organizations. This includes use on websites and social media sites used by the Ecology Action Centre and its partner organizations.

☐ PLEASE <u>DO NOT</u> USE MY IMAGE IN PHOTOGRAPHS OR VIDEO PRODUCTIONS
If you do not wish to allow your images used please initial this box.

_____
Participant's Name

_____   _____   _____
Parent/Guardian's Name   Parent/Guardian's Signature   Date

_____   _____   _____
EAC Facilitator's Name   EAC Facilitator's Signature   Date

Acknowledgement of Risk and Release of Liability
Ecology Action Centre

Name: _____   Date: _____

In consideration of the Ecology Action Centre, its agents, employees, officers, contractors and all other persons or entities associated with it, **I agree as follows:**

RISK ACKNOWLEDGEMENT

Although the Ecology Action Centre has taken reasonable steps to provide me with skilled staff and appropriate equipment for the activity that I am about to undertake, I acknowledge that this activity has risk, including inherent risks that cannot be eliminated without drastically altering the character of this activity. The same elements that help create the unique character of this activity may cause loss or damage to my equipment, accidental injury, illness, permanent disability or death. I understand that the Ecology Action Centre does not want to reduce my enthusiasm for the activity, but wants me informed in advance about the activities' inherent risks.

The Ecology Action Centre activities generally take place in the outdoor environment where I will be subject to many risks, both environmental and otherwise. Activities may vary depending on the course or event, but often include walking around Halifax City, road crossings, walking in parks, volunteer labor and being a passenger in a vehicle. Other activities may be undertaken depending upon the intent of the course. All of these activities have common and inherent risks associated with them.

Illness and medical conditions can jeopardize my safety and in some cases the environmental conditions and/or physical challenge during our activities can exacerbate the situation causing complications or death. I agree that my physical fitness at the start of the program allows me to safely participate. Any medical concerns I have related to the activities, I have verified with a physician that I am safely able to participate. All information on the medical form is complete to the best of my knowledge and I will notify the Ecology Action Centre of any changes in my condition before the start of the program. I authorize the Ecology Action Centre to obtain and/or provide emergency hospitalization, surgical, or medical care for me.

Decisions are made by the facilitators and participants, often while immersed in an outside environment context. These decisions are dependent upon a variety of perceptions and evaluations that by their nature are imprecise and subject to error in judgment. Participants may experience unsupervised time during periods where the staff is not needed for their technical expertise. At all times, I, as a participant am responsible for my own safety, and should take reasonable responsibility for the safety of other participants in the program.

I agree to submit any disagreement under this document or with the Ecology Action Centre first to confidential mediation. Each party agrees to meet in Halifax, Nova Scotia with a mutually agreed upon mediator.

I am aware that the proposed Ecology Action Centre activities include the risk of injury or death. I recognize that the description of risks given above is not complete, and that other unknown risks may result in property loss, injury, or death. I fully acknowledge the inherent risks in these activities, both those identified in this document as well as those not identified. My participation in this activity is voluntary, I am not forced to participate, and I am participating with full knowledge of these risks.

RELEASE FROM LIABILITY

In addition to acknowledging the inherent risks of the activities I will undertake, I further agree, to the maximum extent permitted by applicable law, to the following waiver and release from liability:

I agree, for myself, my heirs and my personal representatives, to hold harmless, release and forever discharge the Ecology Action Centre, and its current and former officers, employees, agents, and insurers, from and against any and all claims, relating to any accident, illness, personal injury, property damage, removal from participation in the activity, or death. I specifically acknowledge that hazards or accidents may arise from the negligence, or alleged negligence, of the Ecology Action Centre staff, contractors, and volunteers, and I specifically intend to waive and release claims against the Ecology Action Centre which may arise from negligence. This waiver and release does not waive or release claims arising from gross negligence or intentional misconduct.

I understand that this release is voluntary in that there are other classes or activities that I could choose to undertake. I have read this release and understand it fully. I understand that signing this release is a condition of my participation in the activities and that this release is legally binding on me, my heirs, successors, and assigns. I am giving up certain rights to sue the Ecology Action Centre and its representatives for injuries, damages, or losses that I may incur, even if caused by the alleged negligence of the Ecology Action Centre, its employees, agents, volunteers, and contractors.

Therefore, I, and my parent(s) or guardian, if I am a minor, assume and accept full responsibility for me and for injury, death, and/or loss of personal property and expenses suffered by me and them as a result of the risks identified in this document and activity descriptions.

MEDIA PERMISSION: I give the Ecology Action Centre permission to use photographic images, written material, video and/or audio that include me or created by me for media produced and distributed by the Ecology Action Centre and its partner organizations. This includes use on websites and social media sites used by the Ecology Action Centre and its partner organizations.

PLEASE <u>DO NOT</u> USE MY IMAGE IN PHOTOGRAPHS OR VIDEO PRODUCTIONS
If you do not wish to allow your images used please initial this box.

I, and my parent(s) or guardian, if I am a minor, have read, understood, and accepted the terms and conditions stated herein and acknowledge that this agreement shall be effective and binding upon myself, my heirs, assigns, personal representative of estate, and all of my family members.

Signature: _____ Date: _____

If the participant is under 18, I am signing this as parent or guardian to reflect my agreement to this document. (Please include the minor's signature in the above section.)

Signature: _____ Date:_____