

**Curricular and Methodological Pedagogies for Middle to Late Adolescence in Outdoor and  
Environmental Education**

A PLAN B PROJECT

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BY

Paul A. Karpinski

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Dr. Jennifer Frisch, Dr. Amy Smallwood, Ryan Hueffmeier

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**DEDICATION**

To the late James R. Lowenstine  
A semester can make a world of difference.

## Abstract

This study explores the pedagogical practices currently employed in environmental and outdoor education programs that serve middle to late adolescents (MLA). Environmental education (EE) and related pedagogies have been well researched for early and middle childhood, however there remains a gap in research and practice of developmentally appropriate EE for MLA. Guided by the conceptual framework of the outdoor education model, psychosocial development and environmental self identity, this qualitative study investigates the curricula, methodological approaches, and educator practices used within EE and outdoor education (OE) programs that specifically serve the MLA demographic. Data was collected through semi-structured interviews with educators and administrators, along with examination of institutional artifacts from ten organizations. Findings highlight recurring themes of experiential and engaged learning, learner-centered and place-based approaches, and curricula and co-curricula designed to foster leadership, community and personal growth. Findings also underscore the need to balance both cognitive and affective development of the learner as a whole. This study offers insight from specialized EE/OE organizations and their campus communities for other EE/OE practitioners and programs to more effectively and appropriately engage MLA learners.

**Key words:** Middle to late adolescence, Environmental education, .  
Outdoor education, Place based education, Pedagogies, Curriculum.

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## Chapter 1

### Introduction

#### Background

In a systematic analysis of 119 peer reviewed literature between 1994-2013 reviewing the outcomes of environmental programs for K-12 students, Ardoin et al. (2018), found most of the research articles on Environmental Education (EE) in the United States is focused on middle school (ages 11-14, 57%), followed by elementary (ages 5-11, 47%), then high school (ages 14-18, 34%). Evidence for both research and practice becomes less prevalent for students in their middle to late adolescence (MLA), leaving gaps in understanding approaches to developmentally appropriate practice in EE for MLA students. If integration of EE wanes in the lives of students as they age, it may affect their awareness, knowledge, and care for the environment. In fact, one study (Krettenauer, 2017) suggests that high school-aged students engaged less in pro-environmental behavior (such as recycling, resource conservation, etc.) citing less emotional affinity for nature. This, in combination with adolescence being a time for identity formation (Erickson, 1950) could potentially reverse positive impacts of the environmental education received during childhood. Conversely, EE tailored for MLA may result in longitudinal benefits.

Research has shown that pro-environmental behavior is positively associated with the strength and emotional connection towards the natural environment (*biophilia*) (e.g., Hinds & Sparks, 2008). Barbiro & Marconato (2016) stated that this connection is manifested strongly through emotion from immediate and consequent reaction to natural stimuli. A lack of interaction with the natural environment, in tandem with increased access barriers to natural spaces, and increasingly abstract curriculum content may explain the decline in affinity for nature in MLA that Krettenaur (2017) identified. A decrease in biophilia and pro-environmental

behavior is in direct opposition to the awareness and attitude objectives for environmental education as stated by the Tbilisi Declaration (1978), the multinational collaborative document which outlines the goals, objectives, and guiding principles of EE.

National environmental literacy standards (NAEE, 2019), based on the Tbilisi Declaration, provide outlines for K-12 environmental education curriculum. However, it is up to individual states, and ultimately individual teachers, to figure out how to go about teaching to those guidelines. Educators are tasked with teaching the concepts, which become more abstract as students age. To get hands-on experience and exposure to many of the learning objectives, educators need access to resources that might be found in green spaces or natural environments. Many (if not most) classroom educators do not have such access, or if they do, they face additional hurdles such as lack of funding, administrative support, and outdoor safety risks (Waite, 2009). With the lack of access to natural environments, educators are relegated to teaching about EE in the classroom via models, lectures, readings, and online resources. Although these strategies may meet environmental literacy standards set forth by governing bodies, the lack of interaction with the natural world may be contributing to the degradation of biophilia in MLA students and ultimately fail to meet core objectives of EE. The lack of opportunity to incorporate interaction with the outdoors and natural environments hampers educators in their efforts to develop, practice, and experiment with pedagogies that may help students connect with and maintain their sense of biophilia while further developing their environmental literacy.

Researchers have produced a wealth of knowledge and theory surrounding early childhood environmental education pedagogy, however equivalent research for MLA is limited. This study intends to advance scholarly dialogue surrounding environmental education

pedagogies geared towards middle to late adolescence through an examination of the methodological approaches and curricular foci to richly describe what currently exists. This research examined EE pedagogies focused on the MLA demographic and expands the scholarly discussion on the topic. The existing barriers that reinforce the importance of this study are: (1) current mainstream environmental education is falling short of select goals and objectives outlined by the Tbilisi Declaration, and (2) there are multiple hurdles faced by EE practitioners such as lack of resources, time, logistics, liability, and more (Stevenson et al., 2014; Rickinson et.al, 2004, and Waite, 2009). Learning more about ways existing organizations are successfully navigating these barriers would be helpful.

This research was guided by four conceptual underpinnings: (1) the roles, objectives and guiding principles of environmental education as stated in the Tbilisi Declaration; (2) Erikson's Psychosocial Theory; (3) consideration of the Outdoor Education (OE) Model (Gilbertson et al., 2006; Higgins & Loynes, 1997) and (4) the concept of developmental appropriateness of environmental education curricula as suggested by David Sobel (1996), as well as how it might be built upon and applied to an older demographic. The rationale for developing the study was based on the observations that conventional EE for MLA is falling short in guiding the development of awareness and attitudes towards the environment (Environmental Literacy/Education). This deficit may be attributed to reduced regular interaction with outdoor/natural (Outdoor Activity) settings in this age group, and/or the fact that the MLA demographic varies from other age groups in terms of developmental and learning needs, which includes students navigating identity and role (Personal & Social Development). These conceptual underpinnings reflected the range and scope of the Outdoor Education Model. It was the three elemental foci of outdoor education that guided the design of this study.

A collection, examination, and the production of a baseline understanding of the current pedagogies of EE practitioners who serve an MLA audience will be useful to multiple audiences. Those who may benefit from knowledge on this topic include high school classroom educators, semester schools, outdoor adventure programs (*e.g.*, Outward Bound, NOLS.), wilderness therapy programs, and environmental learning centers that offer EE for MLA. Those to whom this understanding would benefit indirectly would be the countless researchers and practitioners who have focused on childhood EE. Understanding how to best continue a child's learning journey into adolescence could maintain and build on the benefits of EE throughout students' lives, instead of slowing or coming to a complete halt around high school.

### **Purpose Statement**

The purpose of this study is to explore and describe the pedagogical practices that are currently being used in environmental and outdoor education geared toward middle to late adolescence. With a small body of literature directly relating to the subject of this study, the intent of this research is to serve as an exploratory investigation of organizations that provide outdoor or environmental education opportunities for MLA students through a case study framework.

### **Research question**

This qualitative study will explore pedagogical practice by interviewing OE & EE educators who serve the MLA age group on what pedagogies they commonly employ. The questions this study aims to address include:

1. What are the methodological approaches and curricular foci of pedagogies used for Middle to Late Adolescence (MLA) in the field of OE & EE?

- A. What are the overarching curricular foci of these programs?
- B. Are there unique opportunities of these programs, and if so what are they?
- C. What are the teaching approaches, methods, and activities employed by EE and OE educators?
- D. What types of outdoor space are used, and how?
- E. What considerations are employed in working with MLA students?

### **Definition of terms**

With definitions and interpretations of broad terms varying and developing throughout literature, the next section provides an inventory of key terminology used in this study, and defines the following nomenclature and their operational uses.

#### ***Middle to Late Adolescence (MLA)***

“Middle to Late Adolescence” or “MLA” for the purposes of this study follows the definitional age range provided by the State Adolescent Health Resource Center at the University of Minnesota. “Middle Adolescence” ranges from 15 -17 years of age, whereas “Late Adolescence” ranges from 18-24 years of age. Combined, “MLA” refers to 14-24 years of age. This study acknowledges the difference between the chosen age range and that which is described by Erickson’s Psychosocial Theory (EPT),12-18 years. The chosen definitional range is preferred due to developments in psychology since the development of EPT in 1950.

#### ***Environmental Education (EE)***

Per the United States Environmental Protection Agency, “Environmental Education” is defined as “a process that allows individuals to explore environmental issues, engage in problem solving, and take action to improve the environment. As a result, individuals develop a deeper

understanding of environmental issues and have the skills to make informed and responsible decisions.” In this study, “Environmental education” will also include learning about the environment and its components.

### ***Pedagogies***

“Pedagogies” in this study refer to the ways that instructors & students work with course content, as defined by the Center for Educational Innovation, UMN. More specifically, this study will use it operationally as the methods and practices of teaching.

### ***Biophilia***

“Biophilia” refers to “the innate tendency to focus on life and lifelike processes, or the “innately emotional affiliation of human beings to other living organisms.” (Wilson, 1984)

### ***Outdoor Education***

“Outdoor Education” for the purpose of this study will be an umbrella term which implies the intersection of adventure education, environmental education, and interpersonal/social growth.

### ***Teaching Approach***

“A set of principles, beliefs or ideas about the nature of learning which is translated into the classroom” (Hoque, 2016)

### ***Teaching Technique***

“A well-defined procedure used to accomplish a specific activity or task.” (Hoque, 2016)

### ***Place Based Education***

Sobel (2004) describes place based education as, “The process of using the local community and environment as a starting point to teach concepts in language arts, mathematics, social studies, science and other concepts across the curriculum. Emphasizing hands-on, real-world learning experiences, this approach to education increases academic achievement, helps students develop stronger ties to their community, enhances students’ appreciation for the natural world, and creates a heightened commitment to serving as active, contributing citizens.” Or more concisely described by yemini et al. (2023) as “an umbrella term for pedagogical practices that prioritize experiential, community based and contextual/ecological learning to cultivate greater connectivity to local contexts, cultures and environments.

### **Assumptions**

For the purpose of this study, the first assumption is that time spent outdoors in educational settings will lead to increased biophilia and pro-environmental behaviors. The second assumption being made is that the organizations, administrators and educators are the leading practitioners of environmental and outdoor education for the MLA age range.

## Chapter 2

### Literature Review

#### Introduction

The field of Environmental Education (EE) has a knowledge base of theories and methods related to early childhood, elementary, and middle school-aged children. However, there are a limited number of published studies regarding methodological approaches and curricular foci of pedagogies for Middle to Late Adolescence (MLA) in the field of EE. This knowledge gap is important to address since research suggests that there is a marked decrease in pro-environmental behavior in the MLA age range (Krettenauer, 2017; Wray-Lake, et al., 2016). Based on this evidence, EE as a field may be falling short in its recommendations, goals, objectives, and guiding principles from the Tbilisi declaration (1978), specifically: *Recommendation: 8(a), Goals: 2&3, Objectives: Awareness, Attitude, and Participation, Guiding Principles: 2&9* which encompassed the continued education of individuals and patterns of behavior that are geared towards the preservation and improvement of the environment.

Considering these shortfalls of EE for students between 14-24 years of age and limited literature surrounding corresponding MLA pedagogies, it was useful to examine how environmental education as a field can better meet the needs of students in middle to late adolescence. The review of the literature that follows describes what is currently known about how environmental education is used in the US and internationally with students in middle to late adolescence. First I describe environmental education in general, and then the elements, barriers, and theories connected to MLA within EE.

## Defining the Goals of Environmental Education

As with most things relating to the environment, EE is not exempt from concepts and ideas being intertwined. It is best to start with a general framework on which to present pertinent literature proximal to MLAs in EE. One core document for EE is the Tbilisi Declaration (UNESCO 1978). The Tbilisi Declaration was made through international effort, which formally codified environmental education and is considered by many to be the definitive statement on what EE is and ought to be (NAAEE, n.d.). The core ideas of the Tbilisi Declaration surrounded: (1) recommendations of criteria to guide efforts to develop EE at national, regional, and global levels; (2) defining goals and objectives of EE; and (3) articulating guiding principles that EE efforts should follow.

It is worth noting that this foundational document was broad in scope and has been built upon and adapted over the past 47 years, thus both nonprofit and governmental EE organizations have created abbreviated definitions of EE to better fit current times. The North American Association for Environmental Education (NAAEE) defined EE as “a process that helps individuals, communities, and organizations learn more about the environment, and develop skills and understanding about how to address global challenges.” (NAAEE, n.d., About EE and why it matters)

Relatedly, the United States Environmental Protection Agency’s (EPA) National Environmental Education Advisory Council defined EE as:

*“A process that allows individuals to explore environmental issues, engage in problem solving, and take action to improve the environment. As a result, individuals develop a deeper understanding of environmental issues and have the skills to make informed and responsible decisions”* (EPA, 2023, What is Environmental Education)

The EPA also listed components of EE as awareness and sensitivity, knowledge and understanding, attitudes, skills, and participation. Regardless of the differences in exact verbiage between these definitions, both are taken from the framework of the Tbilisi Declaration.

NAAEE produced *The Guidelines for Excellence Series*, including *K-12 Environmental Education: Guidelines for Excellence*, which outlined and provided “a framework for effective and comprehensive environmental education programs and curricula,” (p.8). The guidelines in this document were organized into “strands” which designated benchmarks of environmental literacy for various age groups. For MLA the strands called for the following foci: (1) Questioning Analysis and Interpretation Skills, (2) Environmental Processes and Systems, (3) Skills for Understanding and Addressing Environmental Issues, and (4) Personal & Civic Responsibilities. Delving deeper into each of those four strands, none specifically addressed having experiences in natural environments or being outside. Rather, NAAEE placed emphasis on knowledge, interpretation, and abstract concepts, leaving a hole in the curriculum that could include fostering a sense of biophilia and, as proxy, attitudes that help students acquire a set of values and feelings of concern for the environment.

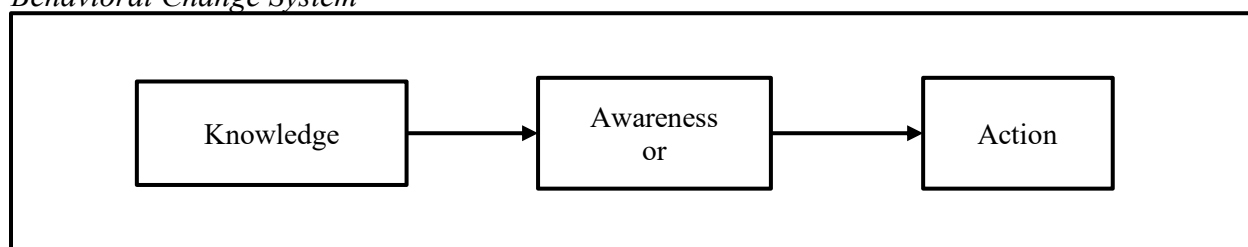
### **The Biophilia and Environmental Education Connection**

Fromm (1973) first described biophilia as “the passionate love of life and all that is alive.” (p.365). The term was later refined by Wilson (1984), as, “the innate tendency to focus on life and lifelike processes” (p.1). Both definitions maintained the idea of the human self-finding interest or affinity in other life. Research suggested that biophilia comes from a feeling of connectedness with nature, which can translate into motivation for pro-environmental behavior (Chawla & Derr, 2012), Liu et.al, (2022), Mayer & Frantz, (2004).

Pertinent to the link between biophilia and pro-environmental behavior is the evolution of the field of EE's assumptions surrounding behavior and the progression of knowledge, attitudes and behaviors. Early conceptual framework in EE surrounding these three factors stemmed from Ramsey & Rickson (1977), which described a linear path of knowledge leading to favorable attitudes, which in turn lead to positive action related to the environment (see Figure 1).

**Figure 2.1**

*Behavioral Change System*

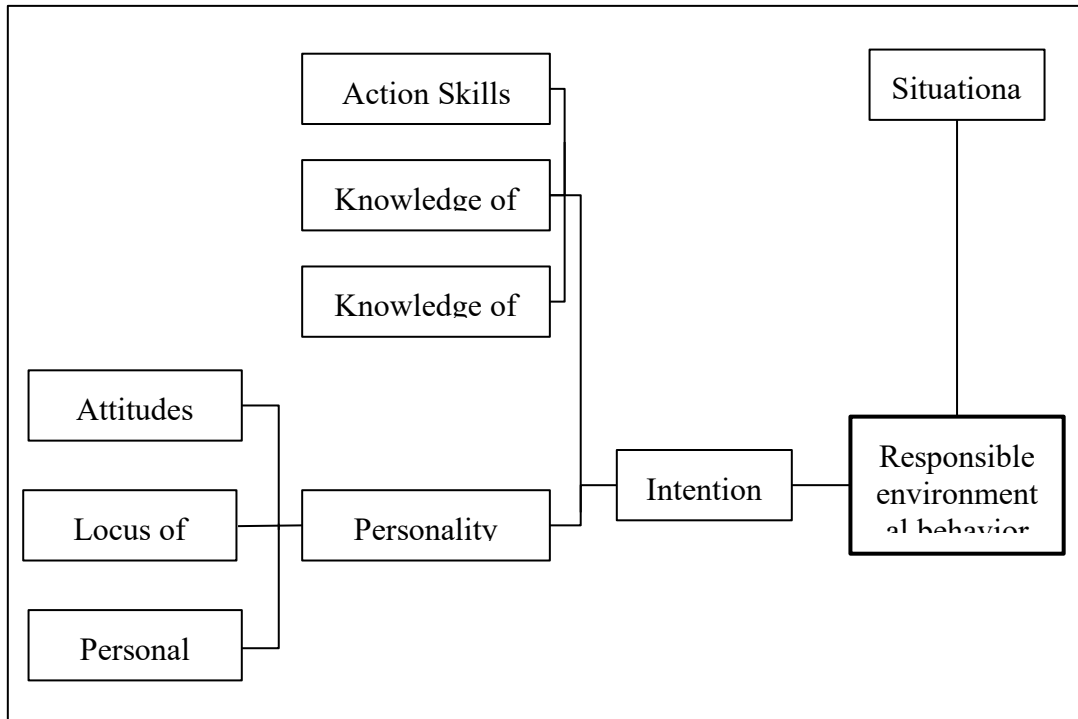


Note. Adapted from *Changing Learner Behavior Through Environmental Education* (p.9) by H.R Hungerford & T.L. Volk, 1990, *The Journal of Environmental Education* Copyright n.d., unknown.

However, as Hungerford and Volk (1990) pointed out, further research into environmental behavior did not validate this linear model. Instead, other research and researchers, notably Hines et al.'s (1987) meta-analysis of environmental behavior research literature found that a model of environmental behavior change, although linear, was more complex. The Hines Model of Responsible Environmental Behavior (see Figure 2) notably places attitudes as one of three personality factors that influence responsible environmental behavior. Those personality factors appear in this complex linear model as occurring concurrently with knowledge as opposed to knowledge occurring before awareness and attitudes. Or, as described by Sobel (2008), "it's more like a sense of agency and control leads to the knowledge of issues and action strategies which lead to an intention to act, which under the right precipitation conditions, leads to environmental behavior." (p.145)

**Figure 2.2**

*The Hindes Model of Responsible Environmental Behavior*



Note. Adapted from *Changing Learner Behavior Through Environmental Education* (p.10) by H.R Hungerford & T.L. Volk, 1990, *The Journal of Environmental Education*

Succeeding research examining the relationship between environmental knowledge and environmental behavior (Finger, 1993) found that behavior is less the result of learning and knowledge and more the result of specific environmental experiences. Further compounding the importance of experience was a study by Wells & Lekies (2006), which examined connections between childhood involvement with the natural environment and adult environmentalism, and found “[c]hildhood participation in wild nature such as hiking or playing in the woods, camping, and hunting or fishing is positively associated with environmental behaviors in adulthood.” (p.1)

These findings highlighted the importance of students having in-person experiences with natural environments. However, current environmental literacy standards do not explicitly require experiences in outdoor/natural environments. It is important for students to be able to

question, analyze, interpret and make sense of concepts and systems relating to natural sciences and the environment. Nonetheless, that knowledge may not be applied or acted upon if there is no connection or biophilia motivating pro-environmental behaviors.

### **Barriers to EE Experiences**

While environmental literacy standards did not explicitly exclude opportunities to be in natural environments or outdoor experiences, formal K-12 classroom educators face a multitude of barriers. Bixler & Floyd (1999) noted that most barriers to EE in the classroom fall into three categories: structural, interpersonal, and intrapersonal.

Structural barriers referred to external forces that inhibit students' opportunities to participate in experiential activities. Examples of this included: cost/ lack of funding (Rickinson et al., 2004; Robertson, 2007; Waite, 2009; Adams, 2013); liability/safety risks (Rickinson, 2004; Robertson, 2007; Wait, 2009); lack of instructional time (Adams 2013; Ham & Sewing, 1988; Rickinson et al. 2004; Stevenson et al., 2014); logistics such as transportation (Adams, 2013; Ham & Sewing 1988; Rickinson, 2004; ); no natural environments being readily available (Ham & Sewing, 1988); and curriculum/policy (Dyment, 2005; Rickinson et al., 2004; Roberson, 2007).

Intrapersonal barriers included those that relate to attitudes of educators and/or students. Examples of intrapersonal barriers were actual or perceived insufficiency of content and pedagogical knowledge (Ham & Sewing, 1988; Rickinson et al., 2004; Roberson, 2007; Stevenson et al., 2014); motivation (Roberston, 2007); and even "disgust" with handling and interacting with items such as soil, insects, or visiting facilities without modern bathrooms (Bixler & Floyd, 1999). Finally, interpersonal barriers referred to disagreements between educators about how to organize the philosophical and conceptual issues of EE such as scope and

content (Ham & Sewing, 1988).

In addition to these barriers, increased abstraction and focus on systems within 9th-12th grade curriculum structures may have also exacerbated the barriers to providing tangible, hands-on experiences in outdoor settings. As such, educators may be resigned to teaching EE through more traditional classroom methods, and reducing students' interactions and first-hand experiences with natural environments and potentially their sense of biophilia.

It is important to examine the barriers to EE, as it is a key assumption of this study that these barriers play a role in limiting the development and practices of pedagogies that support student interaction with outdoor natural spaces and foster a sense of biophilia in MLAs. However, instead of further describing the barriers, this study examined and gained insight from institutions and educators who by design and position have been able to overcome many or all of these barriers to teaching outdoors. By investigating programs and educators with minimal or no barriers to using outdoor spaces in their pedagogical practices, results of this study could potentially be used to glean concepts or methods that could be replicated or worked towards implementing in more traditional classrooms.

### **Environmental Self-Identity & Psychosocial Development**

Environmental self-identity is described as “the extent to which you see yourself as a person who acts environmentally-friendly,” (van der Werff et al., 2013, p. 56). In other words, environmental self-identity shows how much one sees oneself as someone who will exhibit and act with pro-environmental behaviors.

The concept of “Identity” is critical to the framework of this study surrounding MLA. The importance of identity came from acknowledging the different pedagogical and curricular needs based on age and stages of development. The concept of developmental differences and

thus a need for differing pedagogies was acknowledged in EE literature such as Sobel (1996) and Barrable (2019). However, this literature remained mostly in the realm of early childhood. This study, on the other hand, aimed to investigate the extent to which identity and the idea of developmental appropriateness was considered when choosing EE pedagogies and curricular opportunities for MLA. To understand the developmental stage and potential focuses of MLA, this study recognized the authority of Erikson's psychosocial development theory (1950) which described adolescence as a time surrounding identity, role, and deciphering of values, whereas younger age groups have different foci of development. In other words, MLA are developmentally focused on personal and social development. The role of identity highlighted an important development in a young person's life which could hold potential as a critical time for further developing a sense of environmental self-identity through EE and Outdoor Education (OE) efforts. One way to approach learning more about the influence of identity on adolescent learning was by examining more non-traditional education styles and institutions, such as those described in studies by Meerts-Brandsma & Sibthorp, (2020) and Meerts-Brandsma et al., (2023).

Both Meerts-Brandsma & Sibthorp (2020) and Meerts-Brandsma et al. (2023) examined semester schools and the value they played in adolescent development. It should be noted that many of the semester schools in these studies had overarching environmental themes on which they based their curricula, including: sustainable farming, ethics and leadership, marine biology, and conservation. In terms of development, there was a common thread of identity in both of these studies. Meerts-Brandsma & Sibthorp (2020) examined transformative learning at semester schools. Their interview results revealed that the outcome of students' experience was better described as "a cycle of identity formation" (p.1) in which students cited relationships with

teachers & peers, reflection time, and the structure of the semester, as important to their learning. Meerts-Brandsma et al. (2023) “explore[d] the learning outcomes that stem[med] from semester schools and identifi[ed] features within the educational environment that promote them,” (p.1). The research findings identified the top ten student-reported learning outcomes. Of the top ten, identity came in as the fourth most critical and useful. The student-reported features that supported those outcomes were relationships with faculty and peers, pedagogical approaches of the teachers, non-traditional structure of the school and curricular highlights, such as semester-long projects, week-long outdoor adventure experiences, and leadership curriculum and opportunities.

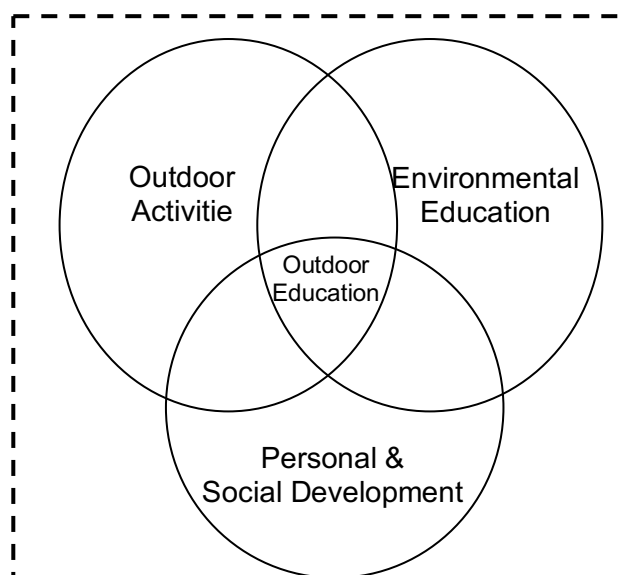
These studies showed evidence that non-traditional school structures can play a role in identity development. To the students, some factors that supported this transformative goal included the pedagogical approach [methods] of the teachers and curricular highlights. Noting the efficacy of these types of educational programs, including their focus on MLA and reduced barriers to outdoor EE experiences, this study sought to examine the pedagogies and curricular opportunities employed at these and similar institutions in greater depth. Such programs included those that were a part of the semester school network (*e.g.*, High Mountain Institute, The Outdoor Academy, Maine Coast Semester at Chewonki), organizations such as Outward Bound and NOLS, and any other programs that focused primarily on MLA and incorporate key elements of the Outdoor Education Model.

## The Outdoor Education Model

The outdoor education model has had various iterations over the past century. The first iteration most closely resembling the current model was that described by Higgins & Loynes (1997). This model acknowledges that outdoor education is an approach that can permeate through virtually any curricular subject area, however OE is the combination of three elements: outdoor activities, environmental education, and personal & social development (Figure 2.3).

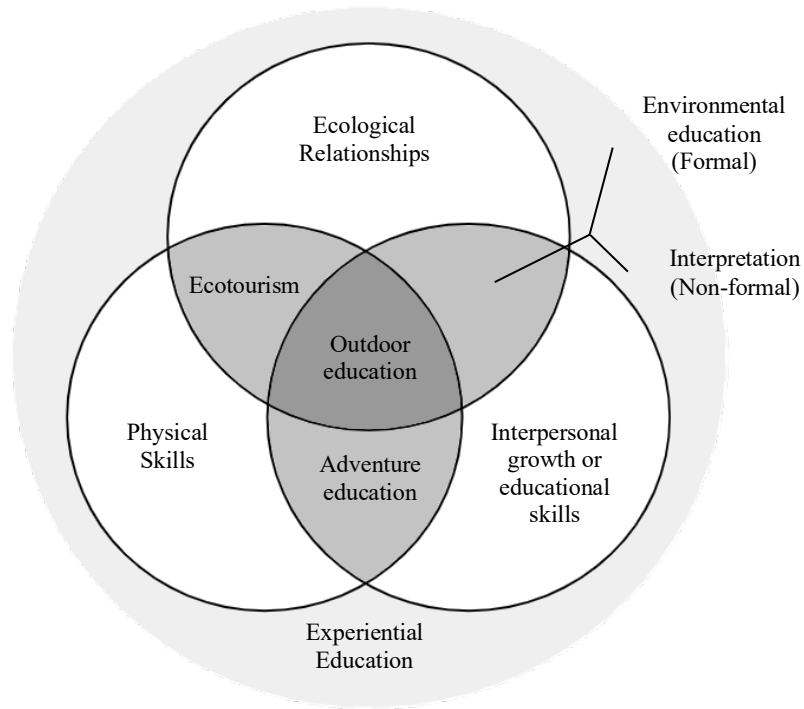
**Figure 2.3**

*The Range and Scope of Environmental Education*



Note. Adapted From *A guide for OUTDOOR EDUCATORS in Scotland* (p.6) by P. Higgins & C. Loynes, 1997, Adventure Education, Penrith, Copyright 1997 by Peter Higgins, Chris Loynes & Neville Crowther

This model was expanded by Gilbertson et al. (2023), who described the OE Model as a blend of physical skills, ecological relationships, and interpersonal growth or educational skills. In this model, Gilbertson et al. (2023) illustrated the overlap of intermediary spaces between two elements (Figure 2.4) whereas Higgins & Loynes did not. Environmental education, which was prominently an entire circle in the Higgins and Loynes model, became part of the intersection of interpersonal growth and ecological relationships in the Gilbertson et al model. This difference implies and further emphasizes the importance of affective elements (biophilia) in environmental education. Both models contain similar main elements: physical skills/activities done outdoors, personal/social development, and learning about nature/the environment. Each element of the

**Figure 2.4***Outdoor Education Model*

Note. Adapted From *Outdoor Education Methods and Strategies* (2006, p.6) by K. Gilbertson, T. Bates, T. McLaughlin, & A. Ewert, Human Kinetics

Outdoor Education Model is proximal to the importance and shortcomings of EE for MLA described in the previous sections: ecological relationships (environmental literacy), outdoor activities (biophilia), and personal and social development (psychosocial development for MLA) respectively. Given these parallels, this study's conceptual framework was guided by the OE Model.

## Summary

Research has shown the decrease of pro-environmental behaviors in MLA citing a lack of emotional affinity, which indicates a weakness in EE in achieving particular goals and objectives of the Tbilisi declaration. Published work surrounding environmental behavior indicates that attitudes are one of the most basic elements needed to influence environmental behavior. Positive attitudes toward the environment come from having a sense of biophilia, which is fostered by experience with nature and the outdoors. However, there are many barriers limiting educators' abilities to give students outdoor experiences that are meaningful to the MLA demographic. Although other elements relating to pro-environmental behavior that more formal "inside" teaching can provide (e.g. knowledge, skills related to advocacy, etc) this limited ability to provide outdoor educational experiences also limits the ability of educators to develop and practice relevant pedagogies which may foster a sense of biophilia that punctuates deep environmental learning. Aside from mainstream formal education, there are institutions that serve MLA in the context of EE and Outdoor Education and due to their focus and design have fewer barriers to experiential opportunities.

EE is not a standalone subject with a singular goal or subject area. It is multifaceted, dynamic, and interdisciplinary with multiple facets and factors in and of itself. As such, it is important to this research regarding OE and EE pedagogies for MLA to consider each element of the Outdoor education model. Accordingly, this study explored and described the pedagogical elements and curricular opportunities of organizations and EE practitioners who employed the elements of the outdoor education model in their teaching, in order to inventory what is currently being done, and what could be done to better serve the MLA age group in the field of EE.

## Chapter 3

### Methodology

#### Introduction

The purpose of this study was to explore and describe the pedagogical practices that are currently being used in environmental and outdoor education geared towards middle to late adolescence (14-24 years of age). The central question this study explored was: what are the pedagogical approaches and curricular foci of educators and programs who serve Middle to Late Adolescence (MLA) in the field of Environmental/Outdoor Education (EE & OE)? This study used a qualitative case study design, which included semi-structured interviews of EE and OE educators and a review of institutional primary source artifacts. The rationale for the qualitative design of this study is in part due to the nature of the dynamic evolution of pedagogies. There are numerous sources and lists which describe teaching methods, approaches, and activities. This study however sought to explore how the EE & OE educators would describe their pedagogical practices, how programs describe their curricular goals, and leave room for potential discovery of pedagogical innovations via the exploratory format of a qualitative design. This study focused on both programmatic considerations and educator practices including:

#### *Programmatic considerations*

1. What are the overarching curricular foci of these programs?
2. Are there unique opportunities for these programs, and if so what are they?
  - a. To what extent does X program differ from traditional schooling?

### ***Educator Practices***

1. What are the teaching approaches, teaching methods & activities employed by EE and OE educators?
2. What types of outdoor space are used, and how?
3. What considerations are there in working with MLA students?

### **Strategy of Inquiry**

This study employed a qualitative case study research strategy. “A case study is an empirical inquiry that investigates a contemporary phenomenon within its real-life context, especially when the boundaries between phenomenon and context are not clearly evident.” (Yin 2003, p 13). Widely recognized and used in social sciences including education research (Ndame, 2023), “[a case study] is used to contribute knowledge of individual, group, organizational, social, political and related phenomena” (Yin, 2003, p. 1) with an emphasis on exploration and description (WAC Clearinghouse, 2024). The primary shaping of case study research is credited to the fields of sociology and anthropology (WAC Clearinghouse, 2024), and can also be traced to life sciences such as criminology, medicine, and psychology (Ndame, 2023).

This study took an exploratory approach by focusing on the “whats” of the central question of the study. There was an instance (Educator Practices: question 2) of branching into explanatory by asking “how” outdoor spaces are used. An exploratory case study approach was deemed most appropriate for this research as it looked to glean insights and answers to what approach(es) and pedagogies EE/OE educators and programs employ for MLAs through self-report and personal accounts.

With minimal research published on this specific topic, this study adds to the research

base by investigating the pedagogical practices and conversations surrounding EE for MLA. This design approach enabled the researcher to inventory, investigate, and follow the expertise of those who specifically work with this age group in the context of EE. Moreover, it gave a breadth of experience and perspective from which data can be coded and themes can be identified.

### **Participants**

Participants for this study were chosen based on the age group of their students, and their program's overall approach to OE. The research included individuals who are working in programs that explicitly serve students in the MLA age range (14-24) and incorporate at least two of the three elements in the Outdoor Education Model (see Figure 2.4), one of which must be “outdoor activities”. Rationale for these requirements was to seek the perspectives and insights on pedagogy relating to elements of the Outdoor Education model of educators who specialized and worked with the age group of focus. The organizations that were identified as programs with staff who fit these criteria included: Semester Schools in the Semester School Network, Outward Bound, Round, Big city mountaineers.

The location of these organizations spanned both national and international, which posed time, funding, and travel challenges for in-person interviews and site visits. Thus, interviews were conducted using the University of Minnesota Zoom platform. Online video interviews met the core intention of this study: to gather descriptive data and insight from EE practitioners. In order to understand the full range of practices and thoughts surrounding this subject, the interviews were done one-on-one to better allow interviewees to describe their thoughts and practices surrounding their pedagogical practices without having external social and temporal pressures.

## **Researcher's Role**

As the sole investigator of this research, my role in this study was designing and executing all aspects of the study under the guidance of my advisor (Dr. Frisch) and committee. The relationships with potential participants were on a spectrum of familiarity. Some of the programs and people who were identified as potential interviewees included acquaintances, and some were strangers. The relationship to the context and phenomenon of the proposed study was closely related to my personal experiences. Growing up, I had always been interested in the outdoors, and was fortunate to have parents, mentors, and communities in my life who supported my interests. From a young age I was enrolled in programs with “the outdoors” being the core element. These programs ranged from day camps at the Kalamazoo Nature Center and Scouting, to semester school programs during high school and college. It was my participation in two environmentally-focused semester school programs (Conserve School & The Woolman Semester School) that had a significant impact on my academic and professional trajectory. I went on to major in natural resources and geology during undergraduate work at Northland College, and later returned to Conserve School as a teaching fellow, where I assisted in co-teaching the Advanced Placement Environmental Science class. It was during my tenure as a teaching fellow at Conserve School that I was privileged to see the intentions and practices of the staff who made the experience impactful for so many students.

As a researcher who has both experienced the student and educator sides of programs similar to those identified for this study, I felt that I had strength of perspective that was used in investigating the research topic at hand. It was with acknowledgement of my potential affinity bias for these programs that I conducted this research with caution and sought guidance from my committee to design the research in such a way that minimized and reduced the influence of this

potential bias.

### **Data Collection Procedures**

The data collection for this study included two methods: semi-structured virtual interviews and analysis of programmatic artifacts. A semi-structured interview collection method allowed EE/OE practitioners to provide in-depth explanations of their thoughts, experiences and practices, while also leaving the opportunity for discovery of new ideas and pedagogical methods that may be specific to institutions or individuals. Collection of programmatic & organizational artifacts (example: Theory of Change Models) allowed for closer examination of “overarching [curricular foci]” of the programs being described.

Limitations of a semi-structured interview method included possible disparate theory and practice reported by the interviewees, and that interviewees may vary in articulation and perception of self-reported practices. The strengths of this data collection method were that it allowed for follow-up questioning and presented opportunities for interviewees to elaborate on their answers to the questions. This method also left room for interviewees to bring up any additional thoughts or recommendations they had relating to the study. From a practical standpoint, this method allowed for ease of recording and transcription and reaching a niche group of organizations and individuals in various locations around the country with relative ease and low cost.

Collecting programmatic and organizational artifacts held strong potential to clearly identify the stated aims, goals, and missions of overarching curricular foci of the studied organizations. The documented information outlined in artifacts aided in mitigating the potential of bias or misinterpretation via inference of information provided in the semi-structured interviews alone. However, all institutions did not have the same specific document types

publicly available, which is a limitation. Combining the two methods of data collection strengthened the study by providing opportunities toward triangulation of data.

The protocol for recording information via interviews reflected interview protocol as described in Creswell & Creswell (2023). The semi-structured questions that were asked during the interviews were as follows:

### ***Programmatic Considerations***

1. What are the overarching curricular foci of [Organization name]?
2. How would you describe the way you go about meeting these foci within the school/program?
3. Are there unique opportunities of [Program's name], if so, what are they?
  - a. To what extent does X program differ from traditional schooling

### ***Educator Practices***

1. How would you describe your approach to teaching?
  - a. Probing question/prompt: What is your teaching philosophy?
2. What methods or activities do you employ in your [classroom/trip experience]?
  - a. Probing question/prompt: Can you give me an example of a time when you used this?
3. What types of outdoor spaces do you use in your teaching and how do you use them?
4. What considerations do you have when working with this age group?
  - a. Follow-up question(s): How is teaching a 14-year old different from teaching an 18 year-old? How do you think it is different from younger students?

Artifacts of institutions were collected from websites and other publicly available resources. Artifacts used included, but were not limited to: logic models, annual reports, mission/vision statements, curriculum guides, and course descriptions. The intention of collecting these artifacts was to provide additional context related to the programmatic scope of each organization.

### **Data Analysis**

Data collected from the semi-structured interviews underwent adapted steps of the code-to-theme analytical process described in Creswell & Creswell (2023).

#### ***Organizing and Preparing the Data for Analysis***

The data collected from the interviews were transcribed from their digital video recordings via video chat transcription services. Each recorded interview, transcription document and handwritten notes were saved in interviewee files. After transcriptions had been saved and filed, interviewees received a copy of their interview transcriptions for a member check. Participants were given seven days to make changes, add additional information, and/or provide further clarifications. If no alterations to the transcripts were made after that seven day period, the data was assumed to be accurate and ready for coding.

#### ***Coding the Data***

For each interview question I used emergent coding while conducting the interviews. After all interviews had been conducted, I completed a second revision of the codes and created a more concise code book using the responses.

For artifacts I used emergent coding based on what was commonly available on each

organization's website. This process resulted in information regarding 1) courses and curriculum, 2) Mission Statements, 3) What we do descriptions, 4) Core Values, 4) Quick Statistics (program cohort size and student to teacher ratio), 5) Educational/teaching philosophy and approach.

### *Identifying Themes*

After all interviews were transcribed and coded, themes relating to each question were identified using scrutiny based techniques (Ryan & Bernard 2003); specifically looking for repetitions in data codes and further extrapolation of similarities of interviewees and programs.

The first step of theme analysis was documenting and consolidating repetitions in codes from interview notes/transcripts. Similar codes from artifacts were consolidated and listed for each organization. Once codes were identified and consolidated for each interview question, these codes were cross referenced across interviewees to identify themes regarding each question. A similar process was completed for each artifact, cross referencing the codes across the organizations to identify common themes.

## Chapter 4

### Results

The purpose of this study was to describe the pedagogical practices that are currently being used in environmental and outdoor education geared toward middle to late adolescents. The types of organizations included in this study varied in their educational models. Some, such as semester schools, took a more formal educational approach closer to traditional school models and curriculum. These semester schools also utilized their unique locations, resources and schedules to enrich their teaching methods. Other organizations were more non-formal and were independent of formal mandated curriculum and focused more specifically on outdoor education.

I examined artifacts from each institution's publicly available information including each institution's website, curriculum guides, and theory of change models. I also interviewed Administrators, Teachers, Trip leaders, and Educators of organizations whose programs served MLA in outdoor education contexts; requiring the program to meet two of the three elements of the Outdoor Education Model as described by Gilberson et al. (2023).

Artifacts were collected from publicly available information from ten outdoor educational institutions. The information commonly provided on institutional websites included (1) Courses and Curricular Elements, (2) Mission statements, (3) "What we do", (4) Core values, (5) Cohort size and Student to Educator Ratio, and (6) Educational/ Teaching Philosophy and Approach. Once these informational categories were established, themes were created based on the information made available by the institution. Accordingly, the data are organized first by identifying each type of artifact, then by identifying recurring themes (e.g., words, phrases, ideas) noted in the artifacts.

Semi-structured interviews were conducted, including five individuals over three separate institutions. The interviews began with questions regarding programmatic/curricular considerations, followed by questions regarding educator practices (as described in Chapter 3). When the interviews were complete, a copy of the transcripts was provided to their respective interviewees for member checking. After editing and adding any information participants wanted to share, each question was analyzed, and key words, phrases and ideas were identified and coded, and participants were paired with the identified codes in their responses. Note that the participants included five people over three organizations (one interviewee worked at two of the three organizations). Participants included one Program Director, one Head of School, two teachers, and one Director of studies and faculty. Four of the five were part of the formal academic programs.

The research question guiding this study was “What are the methodological approaches and curricular foci of pedagogies used for Middle to Late Adolescence (MLA) in the field of OE & EE?” To answer this question, the following questions were investigated:

- A. What are the overarching curricular foci of these programs?
- B. Are there unique opportunities of these programs, and if so what are they?
- C. What are the teaching approaches, methods, and activities employed by EE and OE educators?
- D. What types of outdoor space are used, and how?
- E. What considerations are employed in working with MLA students?

To answer each of the sub-questions, I sorted relevant artifacts and interview questions that gave insight to each subquestion, and aggregated the codes from each data type to distill relevant themes.

The tables included in this chapter highlight distilled themes mentioned across multiple artifacts and/or interview responses through the lens of each subquestion. Also included are “salient mentions”, which I used to describe themes that occurred across organizations, but were only found through a singular artifact or interview question.

**Question 1A: What are the overarching curricular foci of each of these programs?**

I examined the websites of ten organizations that fit the criteria described in Chapter 3 as artifacts. The parts of the websites that were most relevant to this sub-question were the Mission Statement (MS), “Who We Are” sections (WWD), and Courses and Curricular Elements (CCE). Artifact descriptions are included below. I also incorporated participants’ responses from the interview question 1; “What are the overarching curricular foci of [Organization name]” (IQ1). The overarching themes identified from all of these sources are summarized in Table 4.1.

*Artifact descriptions*

**Mission Statements (MS).**

Ten websites of organizations that met the study criteria of an outdoor/ environmental education institution were analyzed for connection to the question. .

**What We Do (WWD).**

The “what we do” artifact is a more succinct and explicit autobiographical description of how the programs approach meeting their mission statements. Of the 10 organizations used in this study, 9 provided this explanation in publicly available materials.

### **Courses & Curricular Elements (CCE).**

Curriculum guides, academics, and student experience website pages were analyzed to find the specifics of what was offered and how the organizations worked toward their goals and missions. For the organizations that offered traditional academic curricula, six of the seven offered their classes at an AP or Honors level, highlighting the academic rigor of the student experience. In addition to the traditional core curriculum there was often a common element of “Co-curriculum”.

### **Interview Question 1 (IQ1).**

“What are the overarching curricular foci of [Organization name]”. Repeats in responses mentioned by multiple interviewees representing the same organization were counted only once per organization.

**Table 4.1**

Aggregated Themes of Question 1A (Overarching Curricular Foci)

<b>Theme</b>	<b>Found in</b>	<b>Number of references</b>
Community	MS, WWD, CCE	17
Relationship with the Natural World	MS, WWD	16
Outdoor Adventure & Skills Curriculum	CCE	16
Leadership	MS, CCE, IQ1	15
Challenge/Rigor	MS, WWD, CCE	14
Application & Use of Knowledge	MS, CCE	10
Social Emotional Learning	MS, WWD	9

Place Based Education	CCE, IQ1	7
<b>Salient Mentions</b>	<b>Found in</b>	<b>Number of references</b>
Skills	WWD	5
Fitness	CCE	4
Experiential Education	IQ1	2

### ***Question 1A: Theme Summaries***

#### **Community.**

The most recurring and common overarching curricular focus across the organizations was community. Two categorical foci within “community” appeared: internal and external. To frame this idea, it is important to acknowledge that each organization in and of itself is its own community (internal). The organizations also operate within a greater community based on where they are located, which for this study included Patagonia, Bahamas, Appalachia, Rocky Mountains, and the Northwoods. (external).

Each organization was a residential learning experience. This ranged from students being in dorms, cabins, tents, yurts, refugios boats, and/or a bus. Distinctly different from traditional education, these organizations required close quarters/ “on campus” living, where students/participants would eat, sleep, and learn with each other and faculty/educators ranging from a few days to multiple months. This highlighted the internal community aspect.

Most prevalent were mentions of shared work and responsibility. This included shared work, work crews, and/or community service programs such as designated times

to help on-campus farms/gardens, prepping and cooking food in the kitchen, or helping set up camp on expeditions. Resulting from this communal living and learning, shared work and responsibility, and overall prolonged and intensive living experience was the development of tight-knit communities.

Externally, many of the organizations gave intentional focus to making connections with the communities where they operated. Examples unveiled through both interviews and artifacts were working in local community gardens in Patagonia and traveling via kayak along the coast of Cape Eleuthera exploring geological, historical, and cultural sites across the island.

### **Relationship with the natural world.**

Across all the mission statements of the organizations examined in this study, a relationship with the natural world was the most common theme. This included direct mentions such as “connection to the natural world” and “stewardship” as well as mentions of experiences that bolstered students’ relationships with the natural world such as “wilderness exploration.”

### **Outdoor Adventure & Skills Co-curriculum/ Expeditions & Solos.**

This study defined co-curriculum as classes or experiences that were not commonly provided in common core or traditional academic settings. The most common co-curricular theme was Outdoor Adventure and Skills. Nine out of the ten organizations possessed this theme either through an explicit outdoors curriculum, such as outdoor program/skills classes to experiences gained through the inherent structure of the program via living and working in outdoor environments.

A sub-theme within Outdoor Adventure & Skills was “Expeditions and solos”. Expeditions in this context referred to multi-day small group trips which included a form of travel with a particular purpose. The purposes ranged from cultural exploration, scientific inquiry, and developing outdoor and social emotional skills. These expeditions were either designed as a separate class/co-curricular experience or integrated within the inherent design of the program. Solo experiences were incorporated into the expedition experiences or as a standalone experience. The solo experience can be defined as a period of time ranging from 12- 48 hours camping alone in a designated spot. This experience was also commonly used as a focused opportunity for deep reflection.

### **Leadership.**

Eight of the ten organizations included in this study had a co-curricular focus of teaching and exercising leadership and relevant skills. Examples of teaching leadership included theoretical and conceptual classes such as one organization's CIRCLE (Community, Identity, Relationships, Communication, Leadership and Ethics) class. Another organization included “Cumulating Leadership Projects”, in which “students develop a project for when they go home, and uniting something that they're passionate about with a need that they've identified in their home community.”

However, leadership can also take shape through immersive and tangible experiences such as being a leader on expeditions and wilderness travel, providing the opportunity to students/participants to exercise group management skills.

**Challenge & Rigor.**

The majority of the programs and organizations (six out of ten total) emphasized rigor in their academic curricula. Six out of seven that offered high school level curricula offered core academic offerings at the Honors or AP level.

Beyond the academic scope of these organizations, they also provided challenge and rigor through physically and mentally challenging opportunities: multi-day wilderness travel, endurance training, and physically intensive classes.

**Application & Use of Knowledge.**

Within both mission statements and courses and curricular elements were themes of applying and using knowledge; common mentions in mission statements included “Change and external impact”. The statements included the mission of empowering students to/ have capability to exert change in the world.

Additionally, students and participants have opportunities to get “on the ground experience” to apply what they have learned in real time. Examples of this included applying leadership skills on expeditions or aiding with research institutes in participatory field work.

**Social Emotional Learning.**

Social Emotional learning was a common focus in mission statements and “what we do” artifacts. Character building was a part of this theme, including examples such as building “independent thinkers,” “personal growth” and “shared work”, through challenge and building upon one's skills both physically and intellectually.

Another approach to strengthening social emotional skills was through mandatory leadership courses or organizationally designed classes such as the CIRCLE (Community, Identity, Relationships, Communication, Leadership and Ethics) class, “designed to to engage students in lively discussion on topics such as personal identity, conflict resolution, healthy relationships, leadership styles, and the ethics of living in a modern, technological society, and develop a deeper understanding of personal values.”

### **Place-Based Education**

Mentioned by each organization through interview question 1, and explicitly stated in CCE artifacts, place-based education emerged as a recurring theme. Organizations utilized their campuses or local surrounding areas as learning spaces to explore topics covered in curricula.

### **Question 1B: Are there unique opportunities of these programs, and if so what are they?**

The study analyzed responses to one interview question and two of the artifacts to answer this question. The themes of “core values” provided by each of the organizations were used, and interview question three explicitly outlined unique opportunities and qualities of each organization. Cohort sizes and student-to-educator ratios obtained from the artifacts were used to provide additional insight.

### ***Artifact descriptions***

#### **Core values (CV).**

Core values were the autobiographical statements of beliefs and values that guide the organizations included in this study.

### Interview Question 3 (IQ3)

“Are there unique opportunities of [Program’s name], if so, what are they”?

#### Cohort size & Student to teacher ratio

With community/social relationships being a recurring theme in subquestion 1A and 1B, examining the size of the community proved relevant.

**Table 4.2**

Aggregated Themes of Question 1B (Unique Opportunities)

Theme	Found in	Number of references
Community & Connection	CV, IQ3	12
Exploration & Adventure	CV	5
Personal Growth & Development	CV, IQ3	11
Social Dynamics	CV, IQ3	11
Salient Mentions	Found in	Number of references
Environment/ Stewardship	CV	4

#### *Question 1B: Theme Summaries*

##### **Community & Connection.**

Once again, most pronounced in unique opportunities presented by these organizations was the opportunity to build and live in community. At the cornerstone of how this differs from other senses of community, and the ability to do so is “small group size” and “deep relationship building”

The organizations examined ranged from Semester Schools to individual trip-based organizations; the size of cohorts ranged from 5-52 students/participants per length of the experience. Additionally, the student to teacher (or participant to educator) ratio averaged 4:1 based on the artifacts that provided explicit ratios. This, in conjunction with isolated proximity with each other over a period of time allowed for the opportunity to build deeper relationships and norms.

However, unique from other educational organizations was the intentionality of community building. One of the organizations had weekly community meetings where both students and staff can check in and talk about what is going well in the community, and what might be proposed to change or worked on. Another organization intentionally took time to “have people verbalize appreciation in a structured way” allowing for the entire community to develop cultural norms and expectations.

In addition to these active and intentional efforts in community building, there were also passive ways the community was formed. Mentioned by multiple interviewees from different organizations was that the relationships between students/participants and teachers/educators was markedly different from those in traditional settings. Due to the residential nature of these organizations, teachers have duties to students beyond the classroom. Teachers were not only responsible for a classroom, but also for residential life responsibilities such as checking them in for meals, bed, etc. Teachers/educators facilitated expeditions and other extracurricular opportunities which allowed for deeper connections between participants and faculty. As one interviewee put it, “These students saw me so dirty after 14 days of not showering and being out living in the desert, or those

who got to see me as a backcountry skier and see me in these different roles, they were able to connect to me more in the classroom”.

### **Personal Growth & Development.**

Personal growth and development was highlighted as a unique opportunity offered by these organizations. Since each of these organizations are educational in nature, learning was explicit in how students grew during their tenure at these programs. However, other elements of growth and development that arose through interviews and core values were self discovery and self reliance/responsibility and self discovery.

### **Social Dynamics.**

Elements of social dynamics recurred throughout (CV) & (IQ3). The three foci that gave rise to the social dynamic themes were leadership, DEI, and limited phone use.

Of the nine organizations that provided their core values on their websites, four explicitly stated some type of leadership as part of their core values. Additional information on how this is implemented can be seen in the leadership themes summary of subquestion 1A above.

Diversity, Equity, and Inclusion (DEI) held a prominent spot in core values. Mentions such as cultural exchange, JEDI, and inclusion/diversity were included in the earmark of the DEI theme. These forms of DEI were incorporated into the focus and functionality of these organizations through conversational focuses and co-curriculum.

Uniquely, limited phone use was mentioned multiple times in responses to (IQ3), and was also mentioned throughout organizations’ websites. The resounding takeaway was students connected better without phones. As one administrator put it, “we've had a growing piece of creating space where students use cell phones very specifically on

campus and there's a hesitation around that, and a lot of gratitude for doing it. They sleep better, and they interact with their peers on a personal level better". This point was further driven home by another educator, "We have students put away their phones, which is a very unique experience. For the time that they're with us, and then to not leave the wilderness until [they're] done with the expedition."

### **Exploration & Adventure.**

The theme of exploration and adventure arose through mentions of "adventure" and "sense of place". A summary of adventure can be seen in subquestion A theme summary: *Outdoor adventure & Skills Co-curriculum /Expeditions & Solos*. However, the idea of sense of place was also situated in the core values of organization, and achieved through place and community based education (see subquestion 1C themes summary: Place based).

### **Question C: What are the teaching approaches, methods, and activities employed by EE and OE educators?**

To describe methodological and educator practices, I examined artifacts regarding educational/teaching philosophy and approach of the organizations (EPA). Also analyzed were responses to interview questions: "How would you describe the way you go about meeting these foci within the school/program"? (IQ2), "How would you describe your approach to teaching"? (IQ4), and "What methods or activities do you employ in your [classroom/trip experience]"? (IQ5).

### *Artifact descriptions*

#### **Educational/teaching philosophy and approach of the organizations (EPA).**

Themes in the educational/teaching philosophy and approach framework were posted through website pages or curriculum guides. Seven of the ten organizations included in this study provided detailed descriptions of their philosophies and approaches included in the collected data. This artifact provided a broad lens of approaches used by these organizations.

#### **Interview Question 2 (IQ2).**

“How would you describe the way you go about meeting these foci within the school/program” provided a broad scope of methods and philosophies by which the educators structure their educational offerings.

#### **Interview Question 4 (IQ4).**

“How would you describe your approach to teaching” explored the philosophical and attitudinal approaches with which educators conducted and managed their learning spaces.

#### **Interview Question 5 (IQ5).**

“What methods and activities do you employ in your [classroom/ trip experience]” Follow-up questions probed for tangible experiences, activities and projects that educators used while teaching, to illustrate the specific day-to-day educational experiences.

**Table 4.3**

Aggregated Themes of Question 1C (Teaching Approaches, Methods, and Activities Employed)

Theme	Found in	Number of references
Experiential and engaged learning	IQ2, EPA, IQ4, IQ5	21
Meaning/relevance/application.	IQ2, EPA, IQ4, IQ5	15
Student/Learner Centered	EPA, IQ4	8
Interpersonal & Collaborative Learning	EPA, IQ5	5
Place based	EPA, IQ4	4
Salient Mentions	Found in	Number of references
Space for Mistakes and Failure	IQ4	3

***Question 1C: Theme Summaries*****Experiential and Engaged Learning.**

The most pronounced theme from subquestion 1C was experiential and engaged learning. This theme occurred across the board in both in broad scope and approach as described by EPA and IQ2 down to the specific class structure, methods and activities executed by educators described though answers to IQ4 and IQ5.

Within experiential and engaged learning, there were three sub themes. First was the method of “doing something hard” and pushing comfort zones either physically or intellectually, initiating attention and priming engagement. The second approach was experience first learning. This is described by one interviewee as “Experiencing first, and formalizing it later” driving home the idea that “until [students] have experiential context, they won't fully understand and internalize the information.” Finally, supporting both approaches was hands-on interaction with the content, described by interviewees as

pairing content with experience. Educators at these organizations applied this concept by building skills and knowledge on site outside of the classroom. For example, one organization taught lessons in the conservation efforts of Doug Tompkins while hiking through National Parks in Chile. Another organization took students out on the ocean to help with marine research while learning about marine ecology.

### **Relevance through application and meaning.**

The next most mentioned theme was creating relevance through real world application and meaning making. The core of this theme was creating meaning and relevance, and it was approached through real world application of knowledge and skills and reflection.

Real-world application of knowledge and skills meant providing authentic opportunities to exercise skills learned, such as having designated student leaders on expeditions, or the culminating leadership project. This idea was scalable, ranging from small everyday things like calculating the “volume of a white water raft” to figuring out how much space there is for gear, up to “work[ing] alongside researchers conducting and communicating results from real scientific research initiatives.”

Working in tandem with applying the knowledge and skills was meaning-making. Meaning-making is giving students opportunities to understand the big picture relevance of these skills and experiences in their own lives and to be personally invested in their education. The central method of facilitating meaning-making was reflection. Examples of this included reflective writing, group processing, and activities that helped students

consciously develop and reflect on their values and connected how the information and skills they acquired through their educational experiences related to their values.

### **Student/Learner Centered.**

The third most mentioned theme was approaching the learning space in a student centered way. The mentions in the EPA artifacts and IQ4 were the ideas of student ownership and individualization. Student ownership included students taking increasing responsibility over the course of their programs and ultimately taking ownership of their education through adapted strength-based approaches. In addition to student ownership was the approach of individualization, acknowledging “each student's learning journey is distinct” and providing personal and individualized feedback throughout the learning process.

### **Interpersonal & Collaborative Learning.**

Overlapping with previously mentioned themes was interpersonal and collaborative learning. Collaborative learning was also listed in artifacts as being employed in their educational approach. (e.g. group projects, shared work/community chores)

### **Place Based.**

Place based education was mentioned as not only an educational approach, but also an overarching curricular focus. As one administrator/educator described their application of place and wild pedagogies in the field: *I want to make sure we can go out into these really unparalleled classroom spaces: The Salmon River, the Baker River in Chile, Patagonia, wherever. The outcomes are always going to be a little different.*

*Because if a storm comes in, you're going to learn one lesson. If not, and you run into great weather the whole time, it's a different outcome.*

Place based education was also employed by a number of these organizations to interact with and learn about local cultures and communities in which they operated. Examples of this included working with local communities in their community gardens and exploring cultural sites.

### ***Question 1C: Salient Mentions***

#### **Space for Mistakes and Failure.**

The idea of space for mistakes and failure came up multiple times and multiple ways, including as a cultural tone of modeling vulnerability and letting students know that failure and mistakes are okay. Letting students/participants make mistakes, from trying to apply a concept in a new way, or “[letting them walk] an extra five miles” was mentioned. However a key operator to this method was that it was *supported* failure. One participant described this idea as “Dunking and Drying”, conveying the idea of letting students face a challenge (Dunking), and following this up with checking in, processing, and allowing time to regroup and try again (Drying).

### **Question 1D: What types of outdoor space are used, and how?**

Table 4.4 summarizes responses from the educator interview question 6 (IQ6): “What types of outdoor spaces do you use in your teaching and how do you use them”. This was included to describe where these more specialized organizations operate and how they utilize outdoor spaces.

**Table 4.4**

Themes of Question 1D (Outdoor spaces used)

Trail	Public Lands	Water Bodies	Outdoor Classrooms	Local Spots	Anywhere
3	5	3	3	2	2

Of the six themes, the most frequently recurring theme was public lands. This included places like national parks and wilderness areas ranging from Parque Nacional Patagonia & the Boundary Waters Canoe Area Wilderness, both of which would fit into “Primitive to Semi-primitive non-motorized” on the USDA ROS. Also mentioned were using outdoor classrooms, local spots, or “Anywhere”.

How outdoor spaces were used varied. On the more rural end of the ROS, places like public lands, trails, and water bodies were used for outdoor adventure and skills curriculum such as expeditions and solos. However these spaces were also used as class content. One of the interviewees described an example; *“If [students] are backpacking in the eastern range near us in the Rocky Mountains here, and they cross a stream on a backpacking trip, they're going to stop, and they're going to do a sample of water quality and learn about macroinvertebrates and water quality.”*

Outdoor classrooms included going outside of the four walls of a classroom to outdoor spaces on campus with portable whiteboards and stump rounds for the students to sit on. Other examples of developed outdoor spaces included going into town to assist locals in community gardening, or hopping in a van to go to a local slope and study snow composition.

### Question 1E: What considerations are employed while working with MLA age students?

Table 4.5 summarizes responses from interview question 7 (IQ7), “what considerations do you have when working with this age group”? This subquestion is included to gain insight into the specifics of how an educator may better relate, connect and tailor the interests and needs of MLA.

**Table 4.5**

Aggregated Themes of Question 1E (Considerations when working with MLA)

Identity and Development	Cognitive and Emotional Development	Sociopolitical sensitivity	Mental Health	Disconnecting from Technology	Social Relationships
4	4	2	2	3	5

### *Theme Summaries*

#### **Social Relationships.**

The most repeated theme interviewees mentioned regarding considerations while working with MLA students was social relationships: between educator and student, and between students and other students.

Regarding educator to student relationships, the idea of building rapport and trust beyond the formal educator-student relationship was highlighted. This included the basic idea that “[students] don't care what you know, until they know that you care”. As one of the participants said,

*I think a huge part for me, or that I've experienced is trust. I think if adolescents are in this stage where relationships are so important, and social connections are*

*so important to their development that being an adult that they can trust and they can rely on is powerful, and will allow you to have an impact on the student more and allowed and guide them in their like education, more so when you have that relationship.*

Student to student relationships were also important considerations that emerged.

It was mentioned that students tried to connect in “unique ways” ranging from being overly competitive to claiming to have personal challenges in order to connect and be included in social groups.

### **Identity and Development:**

Identity formation was a major focus for students at this developmental stage. Based on the observations of interviewees, identity comes in two varieties. Students are figuring out who they are as a person, i.e. individual identities (such as personality, values, deriving from personal experience). Additionally, identities may be more closely tied to DEI or social/personal identities (such as gender, race, socioeconomic background, etc.).

The other consideration of identity and development was the approach and practice of the educators. One of the interviewees stated “We definitely look at our students as capable, smart, brilliant, motivated individuals, and when we look at them with that lens, they in effect see themselves that way as well”. In other words, educators held a mindset that students are capable, and also engaged in “supporting their growth as a human, as they're learning those kinds of late adolescent lessons about who they are”.

## **Cognitive & Emotional Development**

Also important in working with MLA was cognitive and emotional development. The most salient focus was the idea that students' brains are not fully developed and they require coaching and support with executive function and opportunities to push their limits and take risks in healthy[er] ways.

## **Relationship with technology**

Technology, cellphones, and social media are all part of daily life. However, these organizations considered and had policies regarding technology use. Mentioned multiple times in interviews, limiting or disconnecting from technology proved helpful with social connection and wellbeing. Ways in which technology was managed in these programs ranged from complete disconnection due to geographical location (wilderness areas, middle of the ocean, etc.), or through intentional policy around its use. An example of this type of policy is provided by an interviewee from a semester school:

*We've never been a school that is anti-technology. We very much think today's leaders lean into technology. And we do, too. We do have purposeful crafting around that. For example, when students get here. They turn in their cell phones, and they're in "Base Camp". They go through these Phases of Community Development. After they've shown us that they can show up on time, and they're in good academic standing, then they can appeal and go to Ridgeline. They [then] get their phones back. Then there's Summit. But phones are never allowed in the school buildings. This year for the first time we decided to shut off Wi-fi at 10 p.m., when evening check-in happens. So there's no wi-fi in the yurts at night, which mirrors what the campus is like in Chile. That's very much [from] reading*

*the research for teens, you know, from the blue light they can stay up scrolling, scrolling, scrolling, and next thing you know it's 2 am. Then they're tired the next day. So we went ahead and made that decision. And we've honestly had zero push back from students or parents.*

### **Mental Health**

Notably mentioned in interviewee responses was the need to consider mental health. Interviewees pointed out multiple reasons to consider mental health in working with middle to late adolescents. Pertinent to the residential nature of these programs is that students/participants are away from the familiarity of their homes and are finding place in a new community, and the organization holds responsibility for their students/participants wellbeing.

It was also pointed out that middle to late adolescence “can be a huge time for mental health challenges” as they are establishing their identity and figuring out who they are as a person, in conjunction with predispositions of mental health, specific emerging challenges (e.g., Covid pandemic), and facing this in potentially uncomfortable outdoor environments.

### **Sociopolitical Sensitivity.**

The final theme that appeared though IQ7 was that students at this age are becoming or are attuned to the sociopolitical climate, particularly tying to DEI and change/external impact. Interviewees gave examples of students pushing for social change, and being open to potentially challenging and uncomfortable dialogue. An example of this is provided by an participant: “[During] fall 2020, and George Floyd and

Black Lives Matter movement, we had students of color pushing us and saying, here's how you need to improve.”

Similarly, students mirrored and modified behaviors based on this climate which educators themselves may have missed, further highlighting their sensitivity. This is exemplified by the following interview excerpt:

*Students [were] at the takeout of a river zone. There was some other truck or trailer that had flags on it that students found that made them feel unsafe. And so there was a Black student who didn't feel comfortable walking to the bathrooms alone, you know, and wanted to be accompanied, which made perfect sense considering the messaging that was being shown publicly. As someone with white privilege. I didn't necessarily consider that, and so it was just a reminder that it's easy sometimes for people who have various privileges, including [those] who have grown up with outdoor experiences to be like, “what's the big deal? It's just nature, right?” without considering the historical, cultural, socio-political implications*

## **Results Summary**

Based on the artifacts and interview responses analyzed, several themes were particularly relevant to how the schools included in the study met the needs of MLA students in unique ways. Frequently repeated themes included aspects of community/relationships, context, and skills building. The next chapter will synthesize the findings to describe why these types of learning experiences can be particularly impactful for this group of adolescents.

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## Chapter 5

### Discussion

#### **Overarching curricular foci in MLA-focused programs studied**

Subquestion 1A provided insight into what organizations that serve MLA focus on in their curricula. Of the organizations examined through this study, eight of the ten were programs that provided formal academics, while two did not. Despite the majority of the organizations having formal academic offerings, there were often curricular foci beyond that of traditional academic education one might find in NAAEE or state standards.

Three main themes emerged: (1) relationships (peers, community, and the natural world); (2) skill building, and (3) application of knowledge. These themes point toward the idea that teaching MLA environmental and outdoor education goes beyond the content of basic academic curricula, and reaches deeper into the development of the student as a person. These themes and the focus of development of the student as a person align with, complement, and build upon theories and research described in Chapter 2, including the Outdoor Education Model (Gilbertson et al. 2023), Erickson's Psychosocial Theory (1950), Tbilisi declaration (1978), and the need for tailored pedagogical approaches for varying ages (Sobel, 1996).

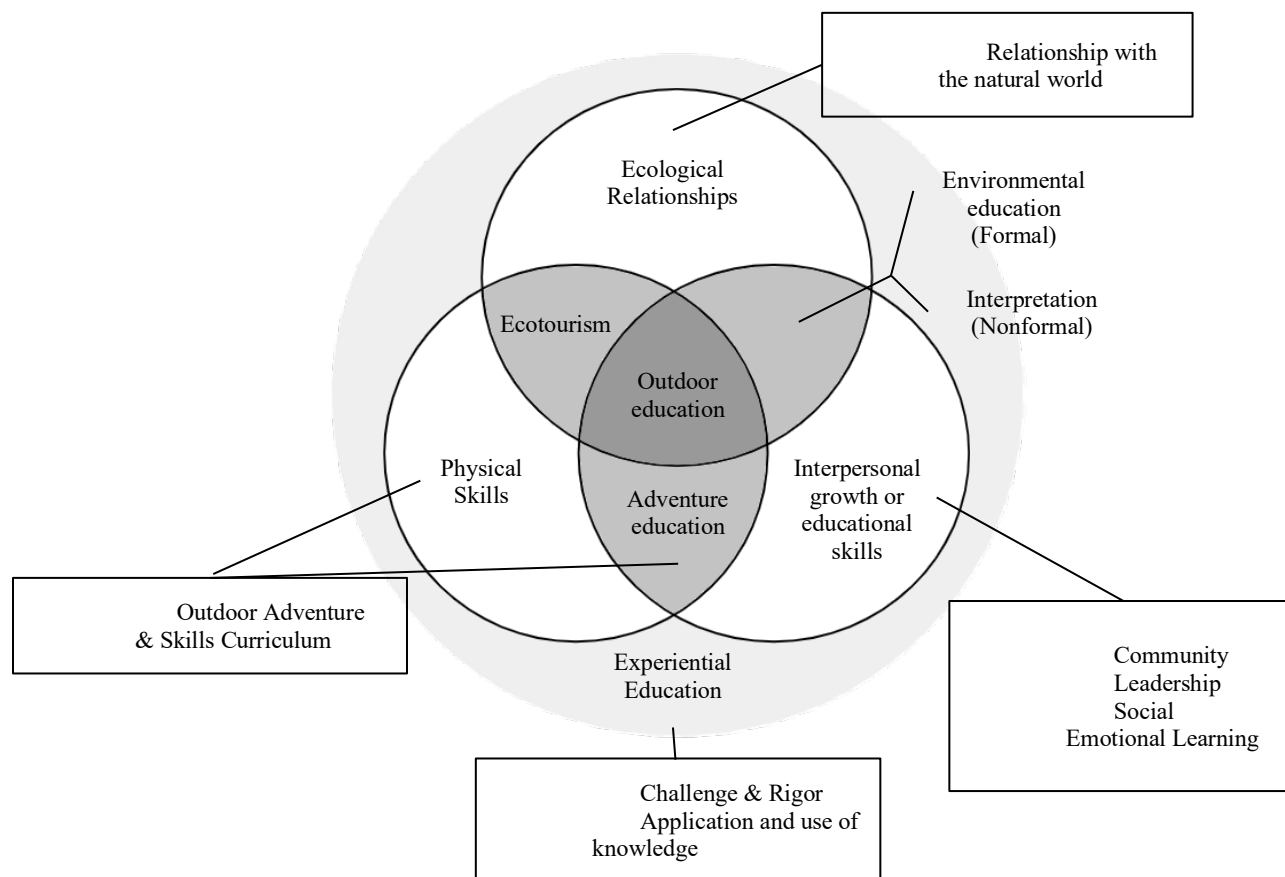
Sobel, in his work Beyond Ecophobia (1996), wrote about developmental appropriateness of environmental curricula and the expanse of a child's world. He noted that from ages eight to eleven the central focus of their world is explorable landscape. From ages 12-15, he noted that the central focus expanded in scope and abstractions, and social gathering places took center stage. This age range was where he stopped his descriptions. Based on the results from this study, this idea of expanding the world continues to be important once students reach middle to late adolescence. These results suggest that exploration and relationships between the natural

world and peers/communities do not fall to the wayside as students get older. Instead, not only do these foci continue and compound, but the importance of interacting with and applying knowledge as they learn increases. It is at this point they are not only learning more abstract ideas, but also interacting with them, and ideally finding ways to apply their knowledge and agency.

Peer and community relationships align with the adolescent stage of identity within Erickson's Psychosocial Theory. The results showed that leadership, social emotional learning, being an active part of a community, and having close relationships with educators were a central part of the programs. These approaches complement the need for sense of place and belonging described by Erickson.

These themes tie into the cornerstones of outdoor and environmental education aligning with components of the Tbilisi Declaration. The focus of human relationships and being in community and living social dynamics in intimate ways provided unique experience and knowledge that students can carry. Tbilisi's emphasis on skill building and applying knowledge through active and engaging participation in learning about and solving environmental problems is another strong connection to the programs.

The approaches described all fit within the Outdoor Education Model (see Figure 5.1). The theme of relationships aligns within "Ecological Relationships" (relationship with the natural world), and "Interpersonal growth" (community and peers) sets of the model. The theme of skill building fits into "physical skills" and "interpersonal growth or educational skills" sets. Finally, the third theme (application of knowledge) is the backdrop of "experiential education" on which the rest of the themes operate.

**Figure 5.1***Outdoor Education Model with MLA Curricular Foci*

Note. Adapted From *Outdoor Education Methods and Strategies* (2006, p.6) by K. Gilbertson, T. Bates, T. McLaughlin, & A. Ewert 2006, Human Kinetics, including themes from this study

The themes of the overarching curricular foci are more co-curricular than traditional environmental education approaches, suggesting a benefit to incorporating a more holistic approach to environmental education for older adolescents.

## **Unique Opportunities Found in MLA Programs**

The programs described are designed to specifically serve a population of Middle to Late Adolescents. Each of the places examined were private organizations allowing them to set their own values and curriculum, adapt acutely to the needs of their students/participants, and design/provide experiences that might otherwise be difficult to offer due to barriers and limitations as described in Chapter Two. These freedoms provide agency to these organizations to offer and focus on unique opportunities developed for MLA. Major “unique” factors that emerged from the data included (1) community and connections, (2) exploration & adventure; (3) personal growth and development, and (4) social dynamics.

### ***Community***

All of the organizations had a residential aspect of their programs which included close proximity living (eating, sleeping, learning, working), either on campus or on trail/expedition. Distinct from traditional settings where both learners and educators leave the campus and learning spaces, these residential settings gave rise to both passive and active opportunities for connections and community building.

As previously quoted, one teacher interviewee mentioned, “[t]hese students saw me so dirty after 14 days of not showering and being out living in the desert, or those who got to see me as a backcountry skier and see me in these different roles, they were able to connect to me more in the classroom.” This quote illustrates the passive opportunities for connection and community building. Participants felt that opportunities for learners and educators to interface beyond the classroom allowed for a richer and more in-depth connection beyond the traditional uni-dimensional student-educator relationship. This idea of developing a deeper relationship beyond that which is provided in a traditional setting can also be applied to peer-peer connection through

passive relationship building opportunities such as shared work, co-curricular activities, and communal responsibilities.

There were structured and intentional opportunities focused on connection and community building integrated into these programs. First, on an organizational scale, is the intimate learner-educator ratio (averaging 4:1). Second, active opportunities for community and connection range from community meetings to classes and co-curriculum built specifically on community. These unique intentional opportunities for community and connection building provide healthy opportunities which align with the psychosocial needs of adolescence. The sense of community also comes out in the connection to relationships with the natural world: communities also include nature, and humans are a part of that connection.

Both passive and intentional opportunities for community and connection allowed greater opportunity for this thematic focus to be more robust and fruitful for students, according to the participants. This aligns with findings from Meerts-Brandsma & Sibthorp (2020), and Meerts-Brandsma et al. (2023), supporting the idea that relationships with teachers and peers were important to student learning, and that peer and faculty relationships were an essential feature in supporting learning outcomes.

### ***Exploration and Adventure***

Each organization included an emphasis on exploration and adventure beyond that of a traditional educational environment, including specific expeditions during a designated time frame. Whether these expeditions were the core framework, or a co-curricular aspect of the program, they got the students/participants outside, exploring, and interacting with each other and the natural world.

Expeditions as a pedagogical activity were common in these programs and provided the type of experiences that allowed participants to engage with nature and the outdoors and further develop their connectedness with nature. Furthermore these expeditions were dissected in small groups, thus intensifying the intimacy and compounding the focus on community/group dynamics, playing into MLA psychosocial needs and scaffolding/combining students' "expanding world [of] explorable landscape" and "central focus [to] abstractions, and social gathering places" described by Sobel (1996).

The experience of expeditions and outdoor adventure is a unique and potentially powerful pedagogical approach as it plays directly into the types of activities and experiences Wells & Lekies (2006) found to positively relate to environmental behavior into adulthood. Not only does this theme provide foundational blocks for participants and students to develop their sense of biophilia, it points out that there is value in these types of experiences that are commonly overlooked in more traditional educational standards and curriculum.

### ***Personal growth & Development***

The theme of Personal growth & development emphasized self discovery and self reliance. Due to the residential nature of these programs, participants are typically away from their home communities and parents/guardians, thrust into a situation which demands a higher level of self reliance and aiding in development of self sufficiency. Tethered to this idea of self-reliance and the opportunities for growth due to independence from home communities was the idea of self-discovery. The independence and new community afforded participants the opportunity to rebuild who they wanted to be, unbound from the conceptions of who they were in their home communities. The participants could be exposed to new ideas and develop new values that are shared by the communities of learners and teachers at these organizations and

programs and this opportunity for independence may have allowed them to explore these new values, ideas and interests with fewer inhibitions.

As an opportunity provided by these organizations, personal development and growth in these ways closely aligned with Erikson's psychosocial theory regarding the focus of development in MLA in ways that traditional classroom education does not. Additionally, this thematic finding was aligned with the findings of Meerts-Brandsma & Sibthorp's (2020) findings that the outcome of students' experience was described as "a cycle of identity formation" and the subsequent study of Meerts-Brandsma et al. (2023) describing identity in the top five student-reported learning outcomes.

### ***Social Dynamics***

Another distinct aspect and opportunity found in the programs described was the focus on social dynamics, particularly though leadership, DEI, and community expectations. The structure and values of these organizations allowed for both intentional and casual opportunities to explore social dynamics.

Leadership appeared in the "core values" artifacts, and across other artifacts and interview questions (CCE, MS, IQ1, IQ5) supporting a strong intentional focus on leadership. Whether it was being a leader of the day on trail, learning leadership theory through electives/co-curriculum, or executing tangible leadership projects in their home communities, exercising and building common understanding of leadership provided opportunities for learners to realize their agency to lead and impart change in the world.

Coded under the umbrella of DEI, mentions of cultural exchange, DEI, and JEDI (Justice, Equity, Diversity, and Inclusion) were incorporated into the focus and functionality of these organizations through conversational emphases and co-curriculum. Students were exposed to

new ideas, cultures (intra- and international), and ways of thinking that fostered inclusivity for all learners, and that could expand the learners' understanding of the world.

Lastly, even more focused on the expectations of community and communal culture were specific responses related to phones and phone use. A few of the organizations either restricted phone use entirely or set intentional boundaries of when, where, and how phones and technology could be used. Interviewees anecdotally reported improved social interactions amongst participants of their programs, ascribing the improvement at least in part to less phone usage.

Thus, another unique opportunity surrounding social dynamics offered by these organizations is they provided focus on inter and intrapersonal social skills as well as a proving ground to practice these learned skills in a small group/residential setting. This approach connects to what the “interpersonal growth” set of the Outdoor Education Model might look like for MLA (Figure 5.1).

### **Teaching Methods Employed in MLA Programs**

The thematic results for question 1C indicate several teaching approaches were common across organizations, including (1) contextual learning, (2) student/ learner centered approaches, and (3) interpersonal and collaborative learning. One thought-provoking finding was an emphasis on allowing space for mistakes and failure.

#### **Contextual learning:**

Contextual learning is a term used to encompass the aggregated themes of “experiential and engaged learning”, “meaning/ relevance/ application”, and “place-based learning”. The programs put a heavy emphasis on both providing their students/participants with real-world and hands-on experiences when exploring curricula, going beyond that of simply learning through

text or lecture. This could include helping and engaging with real world organizations, research and efforts, and applying what they are learning as they learn.

While learning, students were given ample time to reflect and consciously acknowledge the relevance and value and meaning of the content. Examples of contextual learning included exercises of open dialogue and reflective writing, going beyond the simple task of absorbing information and allowing students/participants time and opportunity to digest and find application and purpose of their experiences. This idea of pairing experiential learning with reflection exemplifies a philosophy of “experience first” pedagogy, summarized by one educator as “until they have experiential context, they won't fully understand and internalize the information”, highlighting the role of lived experiences and context in meaning-making.

In addition to the contextual learning happening in each student/participant's internal mental landscape, these organizations went beyond the classroom and utilized place-based teaching. Using the local communities and environs as stages of teaching and learning, students engaged with the concepts they were learning in the context of their surroundings. Although concepts and content of curriculum may become more complex and abstract, the use of place-based pedagogies may provide an anchor of context and relevance for learners.

### **Interpersonal and Collaborative Learning:**

Relational learning encompassed the themes of collaborative learning and leadership and progression. Collaborative learning approaches included group projects, shared work, and other exercises that are common practices in educational programs and learning environments.

However, in the organizations and programs examined in this study, participants engaged with leadership and group dynamics concepts in intentional curricular opportunities. These structured curricular components provided participants structured opportunities to understand and practice

collaboration, ultimately teaching and supporting students in how to work in groups rather than leaving them to their own devices in “group projects”.

### **Learner Centered**

Beyond specific student/learner centered learning approaches (experiential learning, project based learning, etc.), broader themes of student individualization and student ownership of their learning emerged.

The learner centered philosophy of individualization was practiced by educators through providing personalized individual feedback, opportunities for students to make decisions in their expeditions/trips, and chances to execute projects utilizing their own interest to develop a greater sense of ownership over their learning. This ethic of ownership extended beyond the core and co-curriculum of the programs.

Harkening back to personal growth and development, programs facilitated students in a gradual release of responsibility for themselves and the community including daily routines, managing their time, and maintaining shared spaces and resources. In doing so students could cultivate greater independence and personal responsibility, further exercising student ownership beyond academics.

These themes provide a general overture of the philosophy and methodological pedagogies specific to the MLA. Beyond their employment as teaching methods in core programming, these approaches shaped how learning was integrated and applied into the student/participants' daily lives. These teaching approaches provided a framework for teaching MLA and aligned with various components of the Hines Model of Responsible Environmental Behavior described in Hines et al. (1987). The combinations of interpersonal/collaborative learning and contextual learning were built on “knowledge of issues” and “action skills”. All of

these components occurred through an environmental lens, supporting not only responsible behavior but also cultivating environmental connection and identity.

### **Use of Outdoor Spaces**

The organizations in this study were unique in that they face fewer barriers to using outdoor space. Insights from analysis of the interviews and artifacts provide depth to where and how these current educators use outdoor spaces and how traditional educators might use outdoor spaces even when barriers are present.

The studied organizations and their educators used Public Lands (National Parks, Wilderness areas, etc.), waters (rivers, lakes), trails (on campus or public), and local spots (local communities) to provide relevant experiences. The ability to go to these places allowed for a more enriching, place based, and contextual experience. For example, participants described collecting samples and running tests on local water bodies instead of simply learning about water nutrients in a classroom.

Participants from these OE/EE focused organizations also named “outdoor classrooms” and “anywhere” as viable learning spaces multiple times. Although these organizations have access to vast natural spaces and public lands to use as learning spaces, they noted that experiences that can enrich environmental education need not be grandiose or sublime excursions such as collecting water samples from lakes in a wilderness area. Using “anywhere”, also known as nearby nature, to learn EE curriculum emphasized the notion that learning can be engaged more deeply when experienced beyond the four walls of a classroom as long as the teacher finds ways to support the application of knowledge in real-world contexts such as calculating the sequestered carbon within a tree in one’s backyard.

## **How to work with MLA Students**

The responses to Question 1E shed light on the specific developmental approaches used with MLA, which are under-researched in the field. The approaches that emerged for use with this group of students included categories of psychosocial development, relational dynamics, and civic awareness/sociopolitical navigation.

### ***Psychosocial Development***

Aligning with Erickson's psychosocial theory, interviewees shared their consideration of identity and development within their learning spaces. There was acknowledgment that students were discovering and establishing their personal and social identities, defining personal values, and developing cognitive capabilities. This developmental focus appeared to be leveraged by integrating engaging experiences with time for reflection allowing students to and contextualize learning within their own lives and values. In addition to experience and contextualization, including co-curriculum around community, identity, and DEI may also support students.

### ***Relational Dynamics***

An additional focus that was considered by these organizations is MLA's developmentally appropriate emphasis on relational dynamics. As mentioned in chapter 4, being aware of group dynamics within the student body may prove helpful. However, the more unique insight that emerged from these interviews was the emphasis on students having the opportunity (though the residential nature of these programs) to see, and form relationships with their educators beyond that of the traditional schoolteacher. Mentioned by multiple interviewees was the sentiment that "students don't care what you know, until they know that you care", highlighting the importance of students and educators forming strong relationships, further

paralleling the importance of educator-learner relationships in supporting learning and learning outcomes described in Meerts-Brandsma & Sibthorp (2020), and Meerts-Brandsma et al. (2023). Additionally, educators noted consistent observations that participants formed easier and deeper connections when phone use was limited or banned.

### *Civic Awareness/Sociopolitical Navigation*

Participants also commented upon MLA's budding civic awareness and socio-political navigation. In the context of the academic programs, interviewees observed students as attuned to sociopolitical issues and landscapes. Interviewees shared stories of students pushing for improved DEI practices and pointing out how the spaces in which these organizations operated were not always welcoming. As students explored identity and place, the relationships between themselves and others, current events, and issues came into their purview and students' sensitivities and concerns "mirror[ed] [the] political and social climate".

Despite the potential contention, complexity, and discomfort that can accompany these topics, the organizations and educators included in this study do not shy away from students engaging in these explorations. Instead, there are multiple levels of support. Individual educators engaged in conversations formally and informally, and co-curriculum focused on or touched on relevant topics, so there was structure and guidance for students to explore and engage with complex human topics in supported ways. Due to constant contact students have with their educators, these organizations are positioned to support students more consistently while learning about and exercising civic and sociopolitical responsibilities.

Giving consideration to these developmental foci highlighted how learning environments can be adapted and designed to better respond to and serve the needs and interests of MLA aged

students. Rather than seeing these developmental considerations as hurdles or barriers, educators can use them as building blocks to enrich the learning experience of MLA students.

## **Implications**

The purpose of this study was to explore and describe the pedagogical practices that are currently being used in environmental and outdoor education geared towards middle to late adolescence. I sought to explore how the EE & OE educators who work in specialized educational programs/organizations would describe their pedagogical practices, and curricular goals to glean insight from these specialized organizations and educators on how to better serve MLA in their environmental and outdoor educational pursuits.

It is important to note that as specific models of educational practices, there are two major limitations on how directly and effectively these pedagogies can be transferred to traditional settings. One major limitation is the organizational structure of the included programs. Each organization operates as a private business model with specialized foci, making it easier to build, adapt, and allocate resources to the specific educational experiences than it might be in public school settings.

The private structure of these organizations leads to the next limitation of student demographics. The majority of the organizations in this study have an application process in which they selectively admit individuals whose needs, interests, and readiness aligns with the program, which limits the “reach” of the programs. Additionally, all but one of the organizations incur additional costs of attendance, making access to these programs more readily available to financially privileged families and individuals. For the conclusions of this study to be more meaningful to a broader population of students of this age group, it would be especially helpful to find meaningful pieces of data that could be transferable to more settings.

### ***Relationships***

The programs described had a strong emphasis on relationships, both in terms of overall structure and day-to-day approach. MLA students benefit from connecting deeply to peers, to adult educators, and to the natural environment. An impactful element regarding relationships found in each of the included organizations was the element of being a residential experience, which allowed for more opportunities to form relationships and to apply what was learned about relationships.

Although not all educational settings can replicate these immersive residential experiences, a key takeaway was the importance of intentionally cultivating and aiding students in the understanding of relationships. Within current educational systems, educators should be supported in finding time to build deeper and more meaningful relationships with their MLA students. Making structural changes to traditional schooling practices can allow for deeper connections for students at this age.

### ***Contextual Learning***

Through the use of experiential and place based approaches, organizations built real world connection and context of the content and curricula of their programs. In addition to the experiences that occurred, allowing time and structure to reflect on experiences gave students space to internalize personal meaning and relevance of what they learned. The organizations of this study made use of both “grandiose” and “near home” spaces, including “anywhere”, and how spaces were used focused on providing real world context for students’ learning.

Even the most restricted educators who do not have access, time, connections, or administrative support to go “into the field” can still capitalize and leverage the use of context.

The idea of contextual learning calls for going beyond the teaching of concepts. It necessitates incorporating time to build context and create meaning of curricular content in the lives of students, rather than examining content in a shallow way.

### *Adventure as Medium for Growth & Skill Development*

Interviewees placed pedagogical importance on skill building. Adventure and outdoor skills development served as the grounding framework from which academic, executive function, and relational skills emerged. Whether learning how to canoe and take water samples, setting up a tent and cooking outside, meeting basic needs, or debriefing an uncomfortable social conflict, the organizations all used adventure as a medium to teach both hard and soft skills.

Adventure education, as defined by Hogan (2025), “is a dynamic form of experiential learning that encourages participants to engage in perceived-risk activities, promoting both interpersonal and intrapersonal skill development” This resonates with the developmental stage of MLA, a time in which is well known as being a period of risk taking, exploration, and self discovery. These organizations leverage adventurous experiences to offer students guidance and safe spaces to take risks, test boundaries, and grow in authentic ways.

The type of adventures these organizations offer are exceptional in comparison to what can typically and readily be offered by traditional educational institutions. What can be extracted, however, is the idea of using the unknown, exploration, and real risks as pedagogical approaches and methodologies. Incorporating activities that encourage engagement, incorporate challenge, and allow for supported failure are all approaches that can be integrated into traditional educational experiences.

## **Future Research**

The background and introduction of this study placed significant emphasis on biophilia and nature connectedness; however, there were no direct or explicit links drawn between the study's findings and these concepts. This presents an opportunity for future research to more deeply explore how the discoveries from this study relate to biophilia and nature connectedness. Further research could also evaluate whether these pedagogies lead to increased biophilia, strengthen nature connectedness, and ultimately lead to greater pro environmental behavior. Additional targeted research could help clarify how these pedagogies are applied in practice, and potentially could provide greater insight to how they can be transferred and implemented in traditional education and better teach MLA.

## **Conclusion**

The curricular and methodological pedagogies for MLA are more than simple activities and curriculum. The developmental needs and foci of MLA require pedagogies that develop and empower the student/participant as a whole person. Unveiling the missing pedagogical links of experiences such as relationships with community, context to their personal lives and the risk of adventure that is poised to catch their attention and interest, all of which is seldom included in the calculus of formalized standards and commonplace education.

Findings from this study fit within and build upon the outdoor education model, revealing what is developmentally appropriate for MLA in environmental education contexts. “Interpersonal growth” within this model involves developing leadership skills, fostering a community mindset, and investing in social emotional learning. “Physical skills” and “Ecological relationships” are cultivated through direct hands-on engagement with curricula and subject matter alongside the development of physical competencies and skills. These learning

experiences occur within a framework of rigor, challenge, adventure, risk, application of knowledge and finding personal meaning in their work, all while being supported by educators and community members.

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