BUILDING CONFIDENCE AND COMPETENCE THROUGH THE

ENVIRONMENTAL IDENTITY DEVELOPMENT MODEL

by

Kyle W. Farris, B.S. Ed.

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APPROVED:

Carie Green, Committee Chair
Sean Topkok, Committee Member
Virginia Supanick, Committee Member
Amy Vinlove, Director
    School of Education
Kinchel Doerner, Dean
    College of Natural Science and Mathematics
Michael Castellini, Dean of the Graduate School

Abstract

The integration of place-based environmental education into an existing educational program has

the ability to drastically increase the environmental competencies of the participating members.

A unique group of students, who are also potential candidates for leadership roles in the United

States Military, are members of the Reserve Officer Training Corps (ROTC) program. These

students are required to obtain a massive amount of knowledge and ability in a relatively limited

time, while still being required to succeed in the degree program of their choice. By introducing

them to the Environmental Identity Development model (Green, 2018), there is a better

opportunity for them to identify their own competencies and confidence as they act as leaders in

a natural environmental setting, and work towards bettering their own ability to perform, and

succeed when operating in a field environment. Successful progression through this model will

enable them to acquire new skills and appreciations for the natural world, a world in which they

will be expected to be active and engaging leaders in our country's military forces.

Keywords: environmental competency, Environmental Identity Development, place-

based education, Cadet training

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Introduction

In this curriculum project, I develop a plan to assess the potential of integrating place-based education as an essential element of the military training process, with special emphasis on considering each individual Cadet's environmental identity development. While this practice may potentially be utilized within any pre-existing military unit, this project will focus on one specific group that has the maximum potential for future growth. Members of the Reserve Officer Training Corps (ROTC) are often untrained individuals who will soon be called upon to act as leaders within the ranks of our country's elite fighting forces. By providing them opportunities to expand their capabilities and competencies, we increase their ability to achieve goals and act as more potent leaders throughout their careers. Will the development of place competence increase the confidences of the individual as a leader? Does familiarity with an environment increase morale and the ability to function as a team? Will integrating a progressive Environmental Identity Development model allow for members of the ROTC program to better adapt, perform, and acquire confidences while operating in differing terrains? A system of integrated place-based education into the standardized ROTC training regime will provide us with a better view to the answers of these questions.

Rationale

Military training must prepare units and leaders to anticipate chance, identify opportunities, and take prudent risks within the bounds of their mission. Army training prepares those units and leaders to accomplish their mission through tough, realistic full spectrum operations training whenever and wherever the opportunity presents itself (Headquarters, Dept. of the Army, 2011). The purpose of that training is preparation for real world events, such as military conflicts, civil unrest, or even multi-national support missions across the globe.

Unfortunately, members of the ROTC program, more commonly referred to as Cadets, are much

more limited to the types and amount of training they conduct due to the nature of the program

itself. Cadets are to be considered students first, and their underlying task is to obtain a degree

from their attended university. The mission of the ROTC program, is to recruit, educate, train,

and commission leaders of character for the Total Army and to develop accomplished,

responsible citizens who value service to their communities (Army ROTC, 2018). The program

aims to take university level students and begin a process of preparation and grooming for future

leadership positions in the armed forces, whether that be as members of the Reserves, the

National Guard, or on Active Duty. With such crucial roles expected of them, it is all the more

important that Cadets receive the most beneficial training possible. Unfortunately, in order to

meet both the expectations of their future roles and the rigorous training curriculum established

by Cadet Command Headquarters, place-based environmental education has not been fully

considered. Indeed, there is a scarcity of research literature that considers implementing place-

based education in ROTC training programs, or military training programs more general. In my

experience, integration of this type of training and education may have been overlooked because

we, as human beings, often times do not pay attention to the immediate and mundane. We often

consider "place" as a nebulous concept, rather than "place" being specific and our mode of

thought abstract (Orr, 2004). This implies that because we are so often focused on the more

specific elements of an experience, we cannot see, nor do we take advantage of, the bigger

picture. It is far too common for individuals to overlook the fact that their environment plays a

vital role in the actions taken under a variety of situations, however, since place is quite static, it

often minimized as a contributing variable (Orr, 2004). Place and the environment, however, are

paramount to the planning processes of any military leaders, thus every effort should be made to

take place into consideration. For Cadets, an introduction to and education based on environmental competency and understanding can be an incredibly valuable tool as part of the regular training curriculum. While in the ROTC program, Cadets are afforded unique opportunities for self-development and leadership training in an environment that is both regimented, yet relaxed. Soon after graduation and commissioning, the Cadets become Second Lieutenants and are expected to operate and lead other Soldiers in a variety of environments across the globe. Before this can occur, however, proper training and preparation must take place. In an effort to maximize training, and in order to better prepare Cadets for the wide variety of environments in which they may operate, this project is grounded in the idea that application of a place-based environmental education would increase place competencies and confidence of those leaders, thus increase the potential for success in the future missions they will lead.

Literature Review

In the world of education, there are a seemingly endless list of pedagogies that attempt to support the wide variety of learners for instilling new sets of knowledge and understanding. As a broad concept, education and learning reach far beyond the stereotypical concept of the classroom setting where children and adolescents attend school with their peers between the ages of five and 18. A particularly imperative notion within education is the value of social interaction and support systems as part of the ongoing learning process. Urie Bronfenbrenner's Ecological Systems Model (1979) stresses the value of these systems as being the immediate influencers on development for the individual. This model proposes a series of "nested structures, each inside the next, like a set of Russian dolls," where the individual is at the heart of the model, surrounded by parents, friends, schools, and neighbors within their own social network, all working to support development and growth (Brondenbrenner, 1979, p. 3). The interactions that

children and adolescents have with these networks provide them with a base of confidence and

understanding that acts as the foundation for further learning. Beyond these foundations,

however, knowledge is also constructed through social interactions, and is heavily influenced by

one's peers (Mahn & John-Steiner, 2013). Lev Vygotsky (1962) supported this by emphasizing

how culture and social interactions guide a person's cognitive development. Thus, the value of

peers cannot be overlooked for the development of a whole self. By recognizing the potential of

social interactions, specifically that of peer or near-peer relationships, learning and specific

methods of instruction may be utilized to support individuals on a level that may not be

achievable through other means. Vygotsky also developed the concept of Zone Proximal

Development (ZDP), which refers to the range of tasks that may be too difficult for an individual

to master through their own merit, but that may be better supported through the guidance and

assistance of adults and more-skilled peers (Daniels, 2011). These peer and near-peer

instructional relationships are common in the world of military training, as necessary skills are

passed on from mentor to mentee on a regular basis. Instruction and evaluation is not just

considered, it is mandated. The information and skills taught are considered to be a sort of

inherited knowledge that is has been acquired through years of successes and innumerable

mistakes. It is imperative, however, that the more junior members of the organization are able to

learn from their predecessors so that there may be constant progression forward, for this

"inherited knowledge" becomes the responsibility of more than just those who taught it, but of

current and future generations as well (Ukala & Agabi, 2017). Training in a military environment

also mirrors many common principles of the Montessori school teaching style, where learning is

recipient driven rather than teacher driven. While the instructors may have the overall

responsibility of guiding their subordinates and providing them the necessary knowledge and

skills to thrive, what is taught is determined by the present ability and skill level of the acting students (Block, 2015). Also like the Montessori teaching style, the military training regimen is designed to balance behavioral lessons and life skills mixed within the educational structure. The determining factor on whether or not many of these programs succeed or fail however, is the support that they receive from those in charge (Nielsen, Meilstrup, Koushede, & Holstein, 2014).

Many teaching and training styles lean on the practice of scaffolding in order to build a structural base for students and trainees. Educational scaffolding refers to support that is contingent, faded, and aimed at the transfer of responsibility for a task or learning (Van de Pol et al., 2010). Lessons are designed to scaffold individuals in their learning of a concept, and then slowly pull away from their support structures in order to eventually accomplish new tasks on their own. Using this method, instructors should slowly modify their level of support in conjunction with allowing the students to have increasing amounts of "self-work" time immediately following a scaffolded lesson, resulting in higher rates of appreciation in the amount of support received and an increase of the skills gained (Van de Pol, Volman, & Beishuizen, 2015). Continued use of effective scaffolding leads to an increase in the emotional relationship of the student-teacher relationship and causes the level of trust to inevitably increase (Meyer & Turner, 2007). Beyond the typical perspective of classroom teaching, however, scaffolding may also be used to establish and bolster a different type of knowledge and understanding, one that ties understanding towards competence and turns knowledge into confidence.

A student's self-concept and self-identification are key psychological constructs with direct impacts on their attitudes in and outside the classroom, and uncoincidentally, their performance as well (Bodkin-Andrews, O'Rourke, & Craven, 2010). Much like the concept of scaffolding, the process of identifying and increasing student self-confidence can greatly affect

academic effort. For students who may feel out of place in their environment due to factors such as personal ability or previously discouraging factors, identifying weaknesses and then specifically detailing plans to support those weaknesses will have a multi-leveled effect on the students. By showing specialty care and attention to their needs and concerns, an instructor will not only build a relationship of trust and confidence with their students, but they may also have the ability to increase their effort levels, and potentially levels of performance as well (Meyer & Turner, 2007). The initial change and effort, however, falls onto the shoulders of the instructor, who has the ability, and burden, of reshaping each student under their care.

Knowledge of what to do and how to respond to certain situations lies at the very base of militaristic abilities. Any individual, whether they be Cadet, enlisted Soldier, or Commissioned Officer, may be taught the basic "cause and effect" relationships within tactics. While skills may be taught, confidence and competence must be gained. Environment, specifically the one in which a person is acting, plays a key factor in the outcome of desired tasks and determined goals. A person's experiences with nature may have a great effect on their perception of the environment. Just as positive experiences nurture a healthy relationship and level of comfort with the outdoors, negative experiences also shape how a person feels about nature (Chawla, 1998). Unfortunately, a lack of competency, or environmental disdain may emerge from negative affective responses to outer environmental dilemmas or adverse situations and encounters in nature (Green, 2018). A variety of factors such as age, location, environment, time spent in the environment, type of environment, culture, family, nature, meaningful connections, the role of empathy, preference, and even positive/negative memories influence feelings and connectedness to one's place (Sobel, 1996). Perception of the environment, and just as importantly, one's place within it, can therefore be a great burden or a blessing as one operates there. Feelings of

belonging or discomfort in certain outdoor environments need not be static either. Feelings of

trust in nature is developed over time and are established through meaningful encounters (Green,

2018). Even if negative connotations to a specific place, or nature in general, already exist,

consistent effort to establish trust and connections with the environment will help to develop a

better sense of belonging. One must remember that humans are a part of, not separate from

nature, and that it must be explored and learned through experiences in order to gain an

appreciation for it (Green, 2020; Sobel, 2008). "[F]or children to gain environmental knowledge

and competence, they need mobility and accessibility and the freedom to explore the

environment and, second, they need a selection of responsive affordances that they can encounter

and re-encounter over time" (Malone, 2013, p. 376).

Studies of place relations and members of the military are quite difficult to come by. One

may, however, analyze the children of service members and study how their sense of place is

altered by their frequent relocation. Typically, every three to four years military families are

required to engage in a Permanent Change of Station (PCS) move. This move takes the service

member and their families to a new duty station where they will stay for another rotation of duty.

Oftentimes there is very little say of when or where these PCS moves will happen, but it can

safely be said that when they do, the children are not always ready to go. As a child spends time

in their environment, they begin to learn and develop a sense of belonging in it. Avriel-Avni,

Zion, & Spektor-Levy (2010) emphasize that "direct interactions with the surrounding

environment, as well as social and environmental activism, are considered to be a very powerful

contributor to place attachment" (p. 120). When a child is suddenly uprooted from their place,

this may create an aversion to place attachment and cause them to feel more isolated from their

environment. "Children's lives are shaped by land, by family, by culture, and by community.

The way these forces work together forms each child's sense of place and place attachments" (Derr, 2002, p. 125). Whether or not an ongoing sense of detachment persists into adulthood is unfortunately hindered by the lack of longitudinal study in this area. Place attachment for adults may still develop, however, with a supported model that identifies weaknesses and deficiencies with an individual's environmental connection and aims to build upon their connections with nature.

Individuals, regardless of age, race, gender, ethnicity, or any other mitigating factor, may fall somewhere within one of the four stages of the Environmental Identity Development (EID) model (Green, 2018). The fluidity of the model allows for an individual to move between the stages of EID and experience progressions or regressions in each stage during a single environmental encounter. The four stages include trust in nature vs. mistrust in nature, spatial autonomy vs. environmental shame, environmental competency vs. environmental disdain, and environmental action vs. environmental harm (Green, 2018). Since movement is fluid within the EID model, each progression presents tensions that may be challenged during outdoor nature experiences. In the initial stage of EID, this challenge is expressed through feelings of trust vs. mistrust in nature, depending on the experiences of the person. As individuals advance in their understanding and appreciation for their effective environments, additional positive experiences are created which positively enhance their sense of nature (Chawla, 1998). As individuals, our sense of identity is formed from a very early age, beginning in infancy with the trust first established between ourselves and our caretakers. From that point, our caretakers may begin our relationship with nature through controlled and supervised contact with our natural environment, whether that be through "tummy play" activities or supported contact with nature through the comforted embrace of our caretakers (Green, 2018). Later on, as trust with nature and the natural

environment continues to develop, one may continue through certain identified stages of education in the environment, education about the environment, and education for the environment per the EID model (Green, 2018). Based on the level of trust and comfort felt in a natural environment, a caretaker, peer, or teacher can scaffold an individual's EID, based on their current level of trust and comfort. Continued trust in nature is refined over time and established through meaningful encounters. From this trust, we develop our own sense of identity and a strong sense of place with our natural environment.

As one moves through these stages, and trust becomes more defined in their own sense of self, we develop a better sense of spatial autonomy and sense for exploration (Green, 2018). There may be issues with this advancement, however, if individuals are not given the opportunity to progress through them properly. This presents the challenge of spatial autonomy vs. environmental shame, where the individual either has the confidence and sense of security to explore on their own or if they "feel anxious or uncertain of themselves in nature" (Green, 2018, p. 55). Consider the example of older adolescents going into the woods and being frightened due to their lack of trust and positive experiences in nature. This may be remedied however by external support being offered, again by peers or caretakers. Avoidance of disdain for nature, and continued fostering of positive experiences will progress individuals, regardless of age, through their own EID. In the third stage, environmental competency is challenged by environmental disdain, which is a continuation of the individual negative feelings and experiences in nature. If poor experiences persist, the individual may begin to lose interest in nature and feel that it is no more than a force to be mastered or controlled (Green, 2018). In order to avoid this environmental disdain, and to foster a better sense of nature's value and meaning, education and guidance through these stages is imperative, no matter the age. Immersion in nature, focused

primarily through positive experiences, will lead them through future stages of bonds with nature

as trust continues to develop (Green, 2018). For a person in the fourth stage, environmental

action may be challenged by feelings of environmental harm. Where environmental action

focuses a person's stewardship and concerns for nature in a positive way, environmental harm

may arise from their feelings of separation and lack of empathy for their environment. Here, an

individual may feel that it is okay to harm or destroy aspects of nature for their own benefit

(Green, 2018). Placement on either side of the above stages is not fixed, however, and it is

important to reiterate that all stages of the EID model are fluid and may be continuously revisited

throughout life. New experiences may foster tensions in any one progression that may need to be

overcome, but the building of environmental competencies evolves and helps to better prepare

one as they face these challenges throughout a lifetime of environmental experiences (Green,

2018).

   While exploring people-place relations, theoretical understandings of the importance that

place plays in the human psyche are connected (Widdop-Quinton & Khatun, 2018). People are

naturally drawn to nature, thus utilizing it as a deliberate strategy for teaching and knowledge

transmission is a valid construct. As a young child, learning about local fauna and flora helps to

build interest in nature during a phase when observational learning becomes abstract (McKnight,

2010). Introduction to nature at this age also works toward the prevention of environmental

disdain, and "ecophobia." Sobel (1996) describes "ecophobia" as premature exposure to abstract

environmental problems, such as global warming or rising sea waters, that scare young children

and turn them off to the idea of being able to help. It both distracts them from immediate,

relatable issues as well as minimizes their personal connection to the environment at home.

While it is important to introduce children to environmental factors early, it has very little

positive effect if the concepts being taught cannot be properly understood or explained. This early sense of fear of nature and environmental disdains is also transmitted quite easily from parent to child, especially if the parent/caretaker themselves has existing concerns with their own place in the EID model (Green, 2018). However, if an individual has a more positive role model, the value of intergenerational learning may go well beyond the transmission of knowledge, rather it may provide context for collaborative inquiry and development of ideas for future collaborative community projects in ways that acknowledge and utilize the skills and experiences that adults and youth can provide together (Percy-Smith, 2006). Peer and near-peer relationships have the same potential for both helping and harming the perspectives that one may develop on a given environment, or on nature in general. For those who are more confident and capable in their environmental competencies, they have great aptitude to act as catalysts for positive change. "By acting as peer educators, young people are taking responsibility for leadership roles in catalyzing the spread of learning and action among other young people" (Percy-Smith & Burns, 2013, p. 331). The transition from knowledge recipient to participating agent is another sign in the progression of environmental competency, and further advancement in the EID model.

Developed agency is a valuable trait that will also help a person to exercise their competencies and learned skills. Where agency allows for an individual to make decisions and step away from a system of scaffolded learning, it also enables them to test their skills and acquire confidences in their environment. The development of a "special place" is a manifestation of this process, as it is an expression of an individual's gained autonomy through claiming and constructing their own place, creating their own rules, engaging in creativity and imagination, and exercising environmental competency (Green, 2013). These "special places"

act as a safe space created by the individual where their environmental trust, competencies, and spatial autonomy may be freely expressed. These spaces may appear in any place that the person wishes them to, and serve to give them a better sense of control and agency while operating in that environment.

In the military, people may easily be split into one of two groups of people: actors and agents. Whereas an actor is someone who simply does something, an agent is someone who does something with other people, and, in doing so, makes things happen, thereby contributing to wider processes of social and cultural reproduction (Mayall, 2002). It is oftentimes not enough to just follow orders. Being an actor is as simple as playing a role, mindlessly completing a task just because it is presented to you. As an agent, however, one gains the ability to support and strengthen the group as a whole. It is thinking beyond oneself, and working towards a greater goal. As an instructor/mentor, supporting individuals in becoming active agents of change is a noble objective that may aid in promoting organizational strength and longevity. One must be cautious however, as there is a fine line between providing guidance and promoting agency that must be continually considered and reconsidered (Green, 2017). "Developing a healthy, actively involved, and resilient youth population can contribute to fostering healthy communities and a healthy future" (Macdonald, Ford, Willox, & Mitchell, 2015, p. 495).

It is important to note that child and youth agency exists on its own outside of environmental connections, but that its utility and drive from the perspective of the Environmental Identity Development model provides it a new outlet which can be implemented clearly to a wider variety of populations. In particular, when observing and guiding members of the military, where environmental factors are so closely tied to planning and success, the distinct stages of EID will help to identify strengths and weaknesses of individuals, and ideally lead them

to progress and acquire newfound levels of confidence and competence in relation to their environmental operational area.

Theoretical Perspectives

While the idea of implementing place-based learning into an educational setting is not new, integrating it into a military training program, such as ROTC, provides a new application to be assessed. The proposed project is based on a conceptual framework that would highlight the value of environmental education and competencies as being multi-beneficial for ROTC Cadets. The project would support them by helping to increase EID among individuals and work towards developing a collective of effective leaders in the future. Additionally, there would be positive results for the participants outside of their professional world, as their confidence and competencies in the natural environment may also increase their desire to act further towards Environmental Action, the fourth stage of the EID model (Green, 2018). Actions in this stage would continue to enable their sense of stewardship and conservation as they apply their potentially newfound appreciations for nature throughout their life.

Aims/objectives

The aims and objectives of this curriculum project are multi-faceted. While some objectives are aligned more closely with certain lessons, others will be emphasized across training activities. The learning aims and objectives are as follows:

- To identify the current placement of participating Cadets in their own EID

- To develop levels of environmental competency as Cadets progress through preidentified stages of the EID model

- To deter negative movement in the EID model and avoid negative experiences with nature

- To increase personal levels of confidence when performing in a natural outdoor setting

- To increase levels of morale within the Cadets as they perform ROTC related activities during weekly labs and the semester FTX

- To progress Cadets forward to later stages of the EID model

- To support Cadets through scaffolded learning via peer and near-peer lessons

Research Hypothesis

Application of place-based education and an introduction to the Environmental Identity Development model will increase the levels of environmental confidence and competence for participating ROTC Cadets as it is implemented into the existing training regimen. Lessons will occur throughout the semester, and will build upon several key topics where environmental competencies may be easily advanced and evaluated. Positive movement through the four stages of the EID model will result in increased levels of confidence and leadership abilities during military exercises.

Methodology

In an effort to obtain accurate and valuable information on the specific value of the place-based environmental education that will be implemented during the project, two primary methods of evaluating project outcomes will be utilized. Both methods are regularly applied throughout the military, including leadership preparation programs such as ROTC, and therefore will be quite familiar to all participating Cadets. The first method, and most commonly used in both field and garrison settings, is the After Action Review (AAR). The AAR is "a review of training that allows soldiers, leaders, and units to discover for themselves what happened during the training and why. It is also used to solicit ideas on how the training could have been

performed better" (United States, 1990). One of the most valuable aspects of the AAR is that it is designed to not to be considered a critique, as its purpose is not to determine success or failure. Rather, AARs are professional discussions of training events in either a formal or informal setting. During the AAR, all participants are encouraged to provide constructive feedback that will allow for more successful future training events. They will be considered exceptionally valuable during the course of this project because it allows for frequent feedback and may determine how Cadet's EID stages may shift throughout the process.

Semi-structures interview style questions is another method that will be used for evaluating outcomes and informing current and future curricular design. Specific prompts will allow for open-ended questions to be asked, which when combined with the AAR comments, will allow for more constructive feedback for determining the effectiveness of implementing a place-based education into the program.

Limitations/Delimitations

The group proposed for use in this project is the University of Alaska Fairbanks ROTC, a relatively small program of about 30 active members, which I am currently a participating member. A group of this size is optimal for initial implementation, as it will allow for a closer proximity to data and individuals progression through the EID model on a more manageable "student/teacher" ratio. Many of the methods to be utilized in this project are also used by the United States military, making them obvious choices for evaluative educational approaches. There are minimal anticipated problems with regards to implementing the project as part of the existing ROTC training program. The lessons themselves are not invasive in nature, nor do the detract from the overall purpose and intent set forth by Cadet Command. An anticipated positive, however, is that introduction of place-based education and the EID model to the Cadets prior to

training will add an extra enticing edge to the training, which for some, may currently be considered repetitive and basic.

Another critical limitation of the project came from the timing of the implementation and a global outbreak of the Coronavirus Disease 2019 (COVID-19). Due to the contagious nature of COVID-19 and the volume of deaths to illnesses, institutions across the United States have had limitations placed upon them. As of April 2020, all public and private schools in Alaska have been shut down for the remainder of the academic school year. This being the case, the ability to fully implement the proposed project during this school year was eliminated. However, after discussions with both the acting Professor of Military Science (PMS) and other senior Cadets in the program, a sense of excitements and anticipation in the project's implementation still exists.

Ethical Considerations

As an active member of the ROTC program, I would be considered an "insider." This insider role allows for close proximity to the group will allow for unique, unhindered access throughout the course of the project's life. This will also allow for follow-on works to be possible in the event that a notable positive change is achieved or observed. Additionally, my previous experiences as an Active Duty Soldier will provide me with a number of examples and relatable references that may assist in building relations and credibility with participating Cadets. My participation in the program also allows me to have direct contact with the PMS and increases the potential for future application of this project and its results for years to come. Before any implementations are made, however, specific and deliberate permissions will be requested from the acting PMS, who acts as both the head of the program guidepost for participating Cadets.

During the feedback process, specifically the semi-structured interview questionnaires, the Cadets will only place their rank on the forms. This should not only act as a protective measure to maintain confidentiality, but it also provides a data set comparing their responses and EID placements with their respective time spent in the ROTC program. Feedback provided via AAR format however, is not conducted on an individual basis, thus no names or specific affiliations are available.

Application for the Field

While the purpose of this project is to introduce specific methods of place-based education into the existing training schedule, a highly desirable outcome is the movement of individual Cadets through their personal stages of the EID model. The specific training requirements and lessons of the ROTC program are predetermined by a higher headquarters, known as Cadet Command, thus, any deletions of predetermined lessons or objectives is not possible. Modifications and additions, however, are quite open and flexible to creative implementations. For the individual Cadets, not all levels of their environmental competency are as optimized as would be desirable. What then can be done to increase those levels and therefore the overall effectiveness of our military forces in relatively unfamiliar environmental situations? By focusing on skills that increase individual and group levels of environmental competency, we can see a progression through the EID model, as Cadets shift from "trust in nature" towards "environmental action." Training will also be adjusted as it transitions from education *in* the environment to education *about* the environment, and ideally concluding in education *for* the environment (Green, 2018). I believe that early and effective implementation of specific environmental competency training will be beneficial at a variety of levels for the purpose if increasing military performance, both in and out of the training environment.

Lesson Sequence

This project will include a set of five lessons integrated into existing sets of ROTC curriculum throughout the semester, all developed for the primary purpose of supporting Cadets in their EID. The first lesson will take place at the beginning of the semester, and act as an introduction to the environmental concepts and how it may benefit them. Subsequent lessons will occur during four other specific lessons during the semester, though not necessarily consecutively, in areas where they will have the best ability to support Cadet EID and check for their existing placement within the model itself. Since the following lessons do not necessary occur consecutively in the established ROTC curriculum, there may be some time between the EID infused lessons. However, based on the progression of skills and competencies as they are developed, the lessons should still occur in the same order as they are listed in this section. Those lessons will occur during the following military tactics and strategy classes: Individual Movement Techniques, Field Craft, Reconnaissance, and Land Navigation. Other applications of learning and EID instruction may occur informally during other classes or lessons throughout the semester. The semester Field Training Exercise (FTX) will act as the culminating event where the Cadets will be able to demonstrate and analyze their EID placement and provide feedback on the application of it throughout the semester.

Lesson One

Lesson Title: Introduction to Program and the EID Model

Time/Duration: 2 hours

Materials: Whiteboard; pen/pencil; paper or writing pad

Lesson Objectives:

Formal introduction to ROTC Cadre and Cadet Leadership; syllabus overview- outlining the skills and tactics that will be covered throughout the semester; introduction to EID model; self-identification of where each Cadet falls within the model.

Description of Activities:

Lesson one will occur at the beginning of the semester during the first meeting with all Cadets as part of their collective weekly lab time. During this lesson, after the normal formalities of introductions and course overview are conducted, there will be an official introduction to the EID model and how it applies in both the individual and collective setting. The EID model will be described as a phased model that outlines an individual's level of comfort with nature and their natural environment. A visual representation of the model will be drawn out to assist with the explanation (Figure 1). Cadets will be introduced to the base concept of developing Trust in Nature, where one must consider their past experiences with the natural environment and determine what meaningful encounters they may have had over the course of their lifetimes. Cadets will be informed of the fluidity of this trust, and may be asked personal examples at this time of how specific positive or negative experiences may have altered the way they felt about being out in nature.

The next stage, Spatial Autonomy, will be described as the desire for one to go out and explore their surroundings based on the trust that they have developed over time in the first

stage. That level of comfort and confidence allows for a person to break away from their typical

support structures, such as influential peers or supervisors, and begin using their own knowledge

and skills to perform or explore alone. During this time, it is important to recognize that the

individual may also come back to their support at any time for additional help, and then continue

on their journey. Education *in* the environment is an important piece of continued progression

during this stage of EID.

The third stage, Environmental Competency, is described as the phase where the

individual becomes even more confident in their abilities and actions and begins to transition

from being a passive recipient of knowledge and understanding to becoming a peer educator who

is able to take their acquired knowledge and successfully pass it on to those who may be in

earlier stages of their EID. A more complex development of understanding and education *about*

the environment begins to emerge and helps to continue movement through the individual's EID.

The final stage, Environmental Action, is the ideal goal of EID. In it, the individual is

able to take their previously acquired self-cognitions (i.e., values, knowledge, and care for the

environment) and apply them towards environmental stewardship and progression towards a

more sustainable future (Green, 2018). The level of comfort and confidence in nature at this

point is advanced enough to where the person does not feel it necessary to constantly worry

about themselves, but they have the freedom to curb that concern towards care and conservation

of the environment in which they have developed appreciation. Learning in this phase is focused

on education *for* the environment.

Lesson Evaluation:

At the conclusion of the EID introduction, each Cadet will be asked what stage of the

model they believe to presently be in. The results will be recorded for future comparisons

throughout the semester in an effort to determine movement, whether that be forward or

backward, through the model. All Cadets will also be informed that throughout the semester

there will be four other brief lessons and correlations made prior to the regular ROTC lab lessons

that are designed to help them better understand their placement and ways in which

environmental competency will support them in being a more competent and confident agents.

The four focal lab classes include Individual Movement Techniques, Field Craft,

Reconnoissance, and Land Navigation.

Figure 1: Environmental Identity Development Model (Green, 2018)
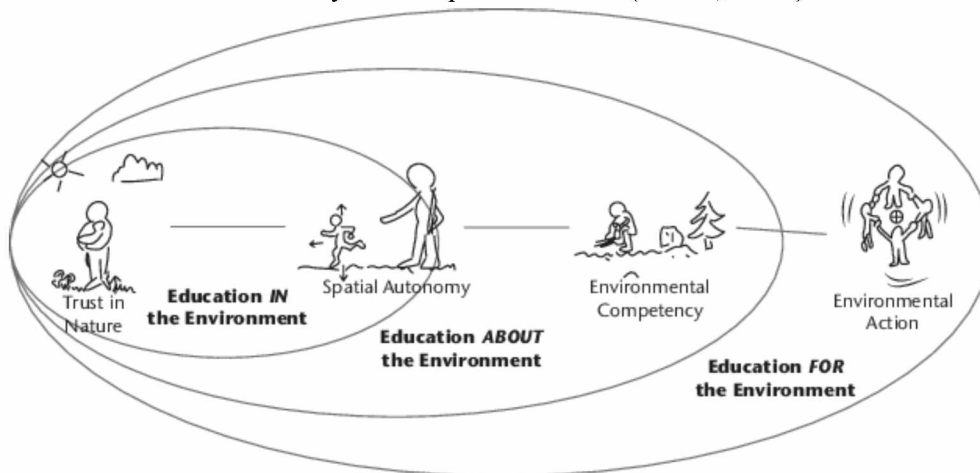
Lesson Two

Lesson Title: Individual Movement Techniques

Time/Duration: 2 hours

Materials: Semi-structured interview questionnaire; pen/pencil

Lesson Objectives:

The purpose of this lesson is to reinforce attention to the environment and to construct positive training experiences while conducting education *in* the environment. This lesson will also introduce the three specific movement techniques that are commonly utilized in tactical situations.

Description of Activities:

The primary purpose of this lab from a military tactics point of view, is to introduce three specific movement techniques that are commonly utilized in tactical situations. The movement techniques are the low crawl, high crawl, and the rush. These positions allow for movement to be conducted while still maintaining a certain level of security. The low crawl, while being the slowest movement technique, provides the most cover, as it requires the individual to produce the smallest silhouette possible by laying flat on the ground, with one's head being turned sideways and still as close to the surface as possible (Figure 2). The high crawl allows for quicker movement by utilizing the knees and elbows to progress forward, but at the sacrifice of increasing the chances of being seen (see also, Figure 2). The third movement technique, is the rush. This movement requires the individual to analyze the terrain they are operating on and make short three to five second standing rushes forward while moving from a current position of cover and concealment to the next available position of cover and concealment (Figure 3). This

movement allows for very rapid movement, but with an obviously increased chance to be seen or fired upon by the enemy (Headquarters, Dept. of the Army, 2008).

As this lesson provides a foundation for many future ROTC labs, it presents an excellent opportunity to reinforce the EID and its value to confidence and competence development. Prior to the regular lesson taking place, Cadets will be reminded of the four distinct stages of the EID model, and how each one applies to actions in a field environment. They will be told that they must take a moment to observe and analyze the current terrain even before they begin the practical exercise. This will help them to build up a more accurate mental image of the environment they are in, and allow for a better sense of control and confidence even before they begin to move. Additionally, prior to any Cadets conducting the drills, the peer instructors will properly demonstrate each of the movement techniques performed to standard while being sure to emphasize the use of terrain and environmental conditions in their decision-making process and actual movement. As Cadets begin to demonstrate the techniques for themselves, peer-instructors, along with other experienced peers, will be present to assist and provide positive and engaging reinforcements.

Lesson Evaluation:

During the evaluation phase, Cadets will be asked what natural terrain features should be considered when choosing which method of movement to conduct. They must be able to explain their answer using both situational and environmental rationale. After each Cadet has successfully demonstrated proper application of each of the Individual Movement Techniques, and any other lessons that may be applied are completed, a directed and specific AAR and a feedback session via the semi-structured interview questionnaire will commence. Special emphasis will inquire about the principles of EID and how an individual's awareness and

application in an appropriate setting supported their learning and confidence as they completed

the day's lab. The focal question from the questionnaire will be: What did you see as the

connection between the surrounding environment and the training that was conducted?
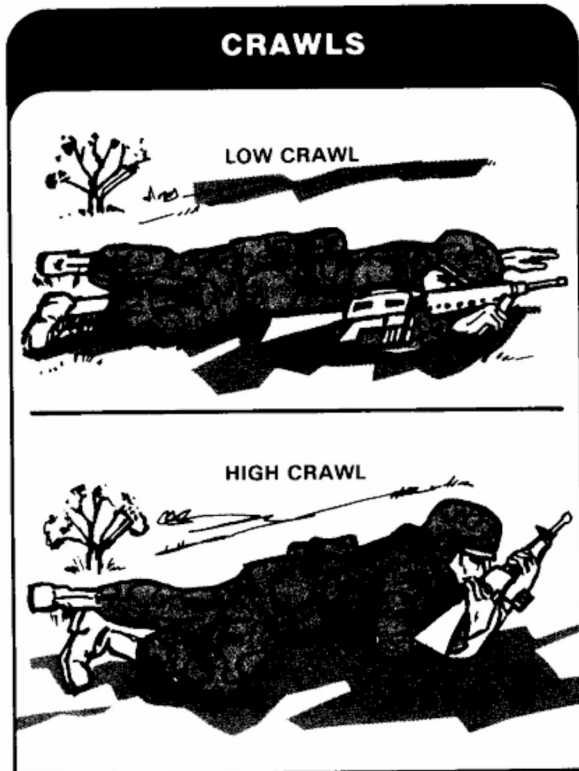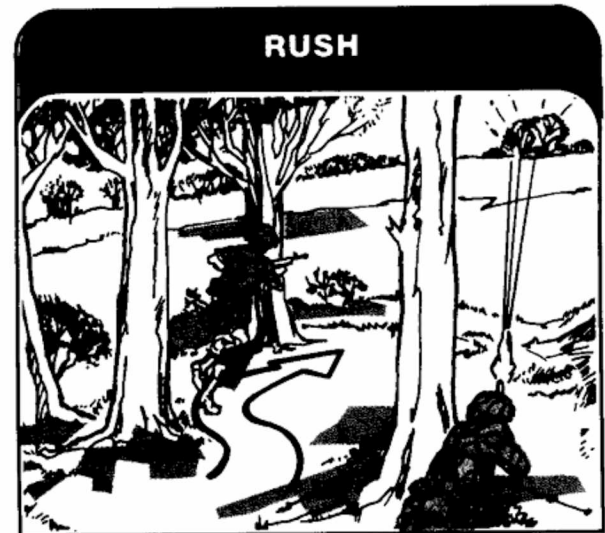

Figure 2: Low Crawl & High Crawl*   Figure 3: Rush*

* Individual Movement Techniques: high crawl & low crawl and rush. STP 21-1-

SMCT. Used with permission. Approved for public release: distribution is unlimited

(Headquarters, Dept. of the Army, 2008.

Lesson Three

Lesson Title: Field Craft

Time/Duration: 2 hours

Materials: Semi-structured interview questionnaire; pen/pencil; paper or writing pad; face-paint pallet; 10 meters 5-50 cord; poncho (individually issued)

Lesson Objectives:

The purpose of this lesson is to teach Cadets how to take their environment into consideration as a part of an overarching tactical strategy. Cadets will learn how to create appropriate patterns to use as personal camouflage as well as strategies for creating a functional shelter without disrupting the natural terrain. By the end of the lesson, Cadets will be more aware of their immediate surroundings, and how it may used to benefit their strategic situation.

Description of Activities:

Field Craft is a term that may apply to any specific actions conducted in a natural field setting that would allow for a better and more effective experience towards successful mission completion. Two lessons that are of vital importance, especially in a natural setting, are the application of camouflage, and the construction of quick, effective, and minimized shelters. Such make-shift shelters are often times referred to as "hooches." Before applying camouflage, one must first analyze the environment they are in, and then make appropriate decisions on what patterns or add-ons may be applied to better hide oneself and their equipment. This lesson also relies on the Cadets' ability to identify colors, patterns, and certain foliage in the area in order to create a camouflaged structure. Prior to this lesson, Cadets will be asked to identify and sketch what things make their current surroundings unique and what adjectives they may use to describe it, noting patterns on both the micro and macro levels. Specifically, colors, densities of growth,

and plant variety should be noted. Cadets will be told that they must consider themselves working with their environment, rather than opposed to it, in order to be the most effective. This awareness and continued education both *in* and *about* the environment will help them to understand the importance of nature and how it can be used for their benefit. By expressing the cooperative relationship and building a better sense of trust and understanding with their place, Cadets are more likely to have increased confidences in their own abilities to successfully camouflage themselves appropriately in the present environment.

Improvised shelters, or "hooches," are also of vital importance while operating in a field setting. These quick to set up and tear down structures are constructed in order to protect the individual from the environment and to provide them adequate concealment while they are resting. These shelters must also be camouflaged appropriately, and should be deliberately difficult to identify by outside parties. Constructed shelters will be described to Cadets as their own "special place," where they will be responsible for choosing its location, design, and construction. This will allow them to better exercise a sense of autonomy and control as they work with the natural environment in creating a place that will not only offer them protection, but can fully be considered a place of their own. Cadets will again be asked to look around and take in specifics of their environment that may be of use to them as they construct their hooches. Much like the camouflage lesson, this will require them to identify features in their environment that would provide them with protection while still maintaining the integrity of the area they are operating in. It is important to emphasize that Cadets should not simply look to rip up or cut down pieces of nature to hide themselves, as these things are quite unnatural and would only serve to make them stand out even more. Rather, the Cadets will be taught that they must again

work *with* the environment and nature and *for* it in an effort to better blend in and construct a site that will not be easily identifiable by others either during or after it has been used.

Lesson Evaluation:

Evaluation for this lesson will take place in the form of evaluating their decision-making processes and how they chose to camouflage both themselves and their hooches. Patterns and colors must match and should have no easily identifying features that make them stand out from their surrounding environment. Cadets will also be asked to identify what natural features are most appropriate for area camouflage, and what factors should be considered while constructing their shelters. All applications and subtle lessons blend easily within the described EID model, and upon completion of the lessons, will be further emphasized to the Cadets during the AAR and a feedback session via the semi-structured interview questionnaire. The focal question from the questionnaire will be: Do you now feel more comfortable using the surrounding environment as part of the training experience?

Lesson Four

Lesson Title: Reconnaissance

Time/Duration: 2 hours

Materials: Semi-structured interview questionnaire; pen/pencil, paper or writing pad

Lesson Objectives:

This lesson will focus on teaching the Cadets to utilize their environment and terrain to allow for for a successful collection of this information without being compromised by being seen or heard. This lesson relies on the stealth of the individual and their ability to navigate the area with poise and confidence. Cadets will also be required to analyze and understand the natural flow of terrain features, and how that may be used both for themselves, and by enemy units.

Description of Activities:

Reconnaissance is a deliberate mission with the intent of collecting information about the enemy or a certain area, whether that be physical or natural. Special emphasis will again be placed on understanding and cooperating with the natural environment. Cadets will be asked to take a moment to observe the natural patterns and colors of the place they are in and produce a sketch of their immediate surroundings. It is important for them to have a certain level of awareness and competence in order to go out and navigate the terrain while successfully remaining hidden. This lab will also require smaller teams of Cadets to go out and conduct their operations, which will provide those who may be in the earlier stages of their EID to temporarily break away from their peer-instructors and explore their own skills and abilities. Previous lessons, such as the individual movement techniques and camouflage, will be incorporated as well, as the stages of environmental understanding, competency, and confidence are tested on a

smaller, more individual scale. Cadets will be required to utilize the terrain and make appropriate

decisions which support their mission to quietly move, understand, and describe the terrain upon

their return to the starting point. Environmental competencies will be observed and noted by

instructors so that issues may be addressed. This lesson will continue to emphasize education *in*

and *about* the environment while further bolstering the confidence and competence of

participating Cadets.

Lesson Evaluation:

During the evaluation of this lesson, Cadets will be required to move a designated

distance with their team without being spotted by peer evaluators. They will be told to use their

environment and tactical knowledge to complete the task. Upon arrival at the end point, Cadets

will observe the team behind them move through the course, and make notes of what they could

do better the next time by better utilizing the environment around them. At the conclusion of the

lab, an AAR and a feedback session via a semi-structured interview questionnaire will occur,

with the focal question being: Do you feel that the non-military training that was applied

throughout the course of this exercise was beneficial to your successes?

Lesson Five

Lesson Title: Land Navigation

Time Duration: 2 hours

Materials: Semi-structured interview questionnaire; pen/pencil, paper or writing pad; compass; map of training area; protractor

Lesson Objectives:

During this lesson, Cadets will be given several specific grid coordinates and be told to mark them on the provided map and make their way to them by using their acquired technical skills and environmental competencies. Upon arrival at each point, they will find a placard with an alphanumeric code they must copy down onto their scoresheet. After collecting the codes from each of their points, or a time limit of ninety minutes has passed, they will return to the start point to have their scores tallied. This lesson also takes into consideration where each Cadet falls within their EID. Those in the earlier stages will be partnered up with a more experienced peer, and those who are confident in their own abilities and comfortable in the natural setting will set out on their own. This break down will support everyone as they work towards progressing in their EID, regardless of the stage they are present in, by conducting education *in* and *about* the environment. It will also allow for the expansion of trust in nature as well as spatial autonomy, allowing for progression forward in the EID model.

Description of Activities:

Land Navigation is the ability to successfully identify your specific place on an area map, and then utilize your acquired skills to mark and move to a different, yet deliberate, position. This practice uses several technical and environmental skills, such as ability to use a compass, protractor, map reading, and terrain association to make your way from one area to another.

Cadets will be encouraged to utilize their knowledge of the land, per personal experiences and what they had just learned, and work *with* the environment in order to make the upcoming training exercise easier rather than simply cutting through just to reach completion. In this context, place-based environmental education is an approach that is more engaging, cultivating, and stewarding of Cadets' minds. The connections that they build through these outdoor activities and learning then help them to increase levels of personal confidence and appreciation for their own homes and environments (Smith, 2013).

Lesson Evaluation:

Upon completion of the lab, Cadets will be asked what environmental considerations they had to keep in mind while walking through the different terrains. They will also be asked about the responsibility breakdowns in the teams (if applicable) and how that leader came to acquire their comfort with their skills and abilities. An AAR and a feedback session via a semi-structured interview questionnaire will occur in an effort to determine if and how the implementation of environmental awareness and individual EID placement affected their performance and perspectives. The focal questions for this lesson will be the following: Should place-based environmental education be applied to future large scale FTX events? Do you feel that the Environmental Identity Development (EID) model can be applied in other areas of your life lessons/training?

Application Reflection

For this project, direct findings were more of a challenge to obtain than they typically would have been. The reason for this is a nationwide shut down of most public educational institutions which began in March 2020 due to the COVID-19 outbreak. However, the concepts and ideas present in this project were presented to other senior Cadets in the ROTC program for their thoughts and analysis. Based on feedback received from them, the application for a curriculum infused with place-based environmental education, as well as an introduction to and explanation of the EID model, certainly has a great potential to yield desirable results. The consensus is that due to the wide variety of experiences with both nature and tactical training present amongst the Cadet population, specifically with regards to the youngest group, a modification to the required curriculum where environmental confidence and competence is included would help them significantly. Although specific data on the effectiveness of the project is not presently available, it is important to note that there is are ample opportunities to check the progress and success of the applied EID lessons throughout the semester through the AARs and simple feedback sessions.

While this project has not yet had the opportunity to begin actual implementation, the acting PMS of the ROTC program has shown great interest in its capacity and ability to increase competencies and performance across the Cadet population. As part of the program as well, senior Cadets are asked to build and prepare the curriculum for the following semester as it is to be taught to the other Cadets during the weekly labs. This preparation and curriculum building/modification will allow for more opportunities and more voices to be heard while still working towards implementing place-based education into the lessons. Based on the received feedback from Cadets and PMS, additional application of environmentally-based education and

measurement of individual EID levels may be applied in other areas of military science curriculum.

During the semester, there may also be opportunities to develop a more gradual progression through the EID model. Ideally, Cadets spend the majority of their weekly labs outdoors in a natural wooded environment. Unfortunately, due to uncontrollable circumstances, weather may not permit such experiences. In cases such as these, alternate plans are made to ensure that training and understanding of tactical concepts may still occur, even if in a more controlled classroom setting. In these situations, it is common to perform a Table Top Exercise (TTX) where a map of the training area is constructed by the Cadets, and then a briefing style explanation of the concepts is covered. In these briefings, however, environmental lessons may still be expressed, but in much more of an education *about* the environment setting rather than an education *in* the environment. These moments are still to be seen and utilized as opportunities to teach environmental lessons. For example, Cadets may still be asked to look at either printed or constructed maps and asked about how the environmental factors and terrain may affect the mission. They must also consider what can they do to best utilize that information in order to increase their chances for success. AARs and feedback on how environmental factors must be considered should also be collected at the conclusion of these exercises. These TTX may also work as supportive lessons that act as precursors to regular labs or even the culminating FTX. It is also important for Cadets to learn to understand and identify environmental factors during TTX on their own, however, as it is also a required skill to be able to analyze a geographical area based on images alone. Additionally, when Cadets have the ability to later go out and physically see and perform in an environment that they have previously studied on a map, there is often times a notable level of confidence increase in their actions.

Throughout the course of the typical ROTC curriculum, there will be a number of opportunities to evaluate and reinforce environmental competencies with the participating Cadets after injecting EID lessons into them. Several examples include wooded ruck marches, situational training exercises, and the semester's culminating FTX, where all acquired skills and competencies may be evaluated. It is my hope that the lessons will be adopted as part of the standard curriculum not only in an effort to increase environmental competencies, but also to increase the confidence and capabilities of all the participants involved. Place-based emphasis in lessons should be modified and adjusted to fit the dual role of supporting the required ROTC/Cadet Command curriculum as well as boosting the overall abilities and capacity of the young leaders in training.

Conclusion

Learning is rarely a single person event, and though it may be possible, it is not nearly as effective as when it occurs as part of a relational role. The ability to learn from others, and specifically from one's peers, allows a person to relate more easily to the material at hand and absorb it in a fashion that is more likely to meld with the learning environment. Social interactions with more-skilled adults and peers is indispensable to cognitive development and helps to equip learners with the knowledge and understanding of their experiences (Mahn & John-Steiner, 2013). Younger and less experienced Cadets learn in the same manner, as their peers are able to encourage and exemplify both tactical knowledge and environmental competency on a regular basis. The scaffolding that is developed, refined, and eventually dismantled by their peers provides a structure that will allow for Cadets to develop their skills and abilities at a base level that may be further built upon throughout their lives.

The ways in which a person perceives their environment effects more than their feelings and preferences, but it can actually alter the outcome of their performance. By being negatively distracted from their task at hand with concerns regarding their place, an individual may falter in their other responsibilities, such as those tied to leadership. In an effort to combat those distractions, an implementation of a place-based lessons into an existing educational curriculum may help progress a person through their stages of the EID model. Progression from a stage of trust in nature towards spatial autonomy builds confidence and capabilities, as a person becomes more self-assured in their environment, and thus more willing to branch out from their comfort zones. Further progression leads to increased levels of environmental competency, which becomes more apparent as a person is better able to learn and utilize more about the environment they are acting in. These phases also see a shift from education *in* the environment towards education *about* the environment. Eventually, the goal is to develop a sense of environmental action, where the values and knowledge one has developed has evolved to an increased level of confidence and competence in nature. Education occurs *for* the environment in this stage, and developments of environmental stewardship and desires to work with one's place, as opposed to against it, arise as the person develops a stronger sense of self and ability (Green, 2018). While this particular style of applied education and development has obvious benefits for a variety of people and students across the spectrum, the potential value is even greater when considering a group who have the most to gain from it. As future leaders in our nation's military, ROTC Cadets must be prepared to operate and succeed in a variety of environments across the globe. In an effort to prepare for operations in those environmental settings, applied EID and place-based lessons will help them to acquire new levels of environmental confidence and competence that would not otherwise be obtainable through other means.

Recommendations

Due to the lack of research and application regarding environmental place-based education and this particular group of students (i.e., ROTC Cadets) application at this level is recommended for initial analysis. Upon conclusion of a semester's worth of environmentally infused lessons and labs has occurred, further discussions should be had if similar lesson plans may be presented at higher levels, where there may be potential for similar training at other Universities and institutions. The goal is to benefit the Cadets as much as possible, and to prepare them for future success in their educational and professional careers. It should be emphasized when presented, however, that implementation of place-based lessons and introduction to the EID model will have a minimally invasive effect on the ability to meet all the guidelines and criteria mandated by the Cadet Command curriculum. The time dedicated to informing the Cadets and focusing in on a particular area of ability and competence of place-based education far outweighs any potential "loss" of time that may occur as it is integrated into the lessons.

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Appendix A

Semi-Structured Interview Questions for Post-FTX

1) Do you feel that the non-military training that was applied throughout the course of this

exercise was beneficial to your successes?

2) What did you see as the connection between the surrounding environment and the training

that was conducted?

3) Should place-based environmental education be applied to future large scale FTX events?

4) Do you now feel more comfortable using the surrounding environment as part of the

training experience?

5) Do you feel that the Environmental Identity Development (EID) model can be applied in

other areas of your life lessons/training?