

A PLAN FOR ENVIRONMENTAL LITERACY AT MARS HILL UNIVERSITY

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## **ABSTRACT**

The environment is continuing to degrade at an alarming rate. Through organizations such as the North American Association for Environmental Education, educators are working to increase environmental literacy throughout our nation's school system as well as the general population. Recent progress has been made in the K-12 school system, yet many institutions of higher education have not integrated environmental literacy into their curriculum. Mars Hill University identified a need for an environmental literacy plan. The purpose of this project was to develop an environmental literacy plan for Mars Hill University. The environmental literacy plan was created to work with the existing First-Year Orientation (FYO) program. Implementing the well-developed environmental literacy plan, Mars Hill University may increase environmental literacy with the student population and create well-rounded students connected with the local community.

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## **CHAPTER 1.**

### **INTRODUCTION**

The natural environment is degrading at a staggering rate (Fokkema, Jansen, & Mulder, 2007; The Literacy Gap, 2007) and the North American Association for Environmental Education (NAAEE) (2006) points to a lack of environmental literacy within the world as a cause. Because of this lack of literacy, individuals are not able to make well-informed decisions in their personal lives or encourage governmental officials to make more environmentally conscious laws (Klock, 2005). The NAAEE (2006) states that environmentally literate individuals will have a greater likelihood of becoming active citizens with a respected voice who have the ability to make educated, informed decisions. Additionally, environmentally literate citizens will greatly affect the environment in a positive way (Chepesiuk, 2007; Groenke & Puckett, 2006; NAAEE, 2006). Increasing environmental literacy across the world could facilitate a meaningful lasting change that will help protect the world's fragile natural resources (Fokkema et al., 2007; Philips, 2011).

State education and environmental education organizations are addressing ways to increase environmental literacy by developing environmental literacy plans. The NAAEE is working to help states develop and implement environmental literacy plans within K-12 school systems; however, most K-12 institutions have yet to implement a plan (NAAEE, 2006). Although environmental literacy plans have met challenges for being implemented, passing the Every Student Succeeds Act (ESSA, 2016) is providing support for a leap forward. The ESSA (2016) reserves the right for institutions to apply to receive federal grants to help increase environmental literacy in K-12 systems. The ESSA specifically states these grants are “to develop knowledge, intellectual skills, attitudes, experiences, and motivation to make and act

upon responsible environmental decisions” (Bodor, 2016). There has been recent legislative success that may lead to the implementation of more environmental literacy plans, however K-12 school systems are still lacking. Because the K-12 system is still falling short, the implementation of environmental literacy plans in colleges and universities could add to the preparation of the environmentally illiterate (Thapa, 1999). Environmental literacy plans for colleges and universities may be the catalyst to a positive increase in environmental literacy (Coyle, 2005; Thapa, 1999). Institutions of higher education such as universities and colleges may be some of the best channels for increasing environmental literacy throughout America’s population (Orr, 1991; Rowe, 2002). It is suggested by Janeksela (2012), that environmental literacy could best be taught through a liberal arts school entwining the environmental teachings through a student’s entire educational experience. Research shows that unfortunately, many colleges and universities do not have environmental literacy plans (Rowe, 2002). Therefore, a way to increase environmental literacy for students in higher education may be to develop and implement an environmental literacy plan that is active throughout the student’s entire academic career while attending a university or college (Jennings, 2014).

## **Background**

Mars Hill University is a small Christian university located on the border of North Carolina and Tennessee. Positioned in the heart of the Appalachian Mountains, the area hosts the tallest mountain range east of the Mississippi River, the Pisgah National Forest, pristine waterways, species native only to the region, and a thriving tourism market. Mars Hill University is proud of its history and honored to provide a quality education to the local community. With a student population hovering just below 1200 and the faculty, staff population nearing 400, the school prides itself on small class sizes and a tight-knit community.

Under the leadership of President Dan Lunsford, the school has facilitated a successful capital campaign which led to the construction of two new residence halls, two new academic buildings, a theater, an athletic field house as well as the planned renovation of the Student Union Building. With the current expansion of Mars Hill University's physical plant, a Strategic Plan for the University was also published as guidance for the future. In 2012, Mars Hill University published *The Transformation to University Status Strategic Plan 2012-2017* as guidance for the coming years. Mars Hill University's strategic plan highlights eight strategic priorities for the university. Strategic Priority seven specifically describes the need to develop sustainable practices to enhance the quality of life for students (2012).

Mars Hill University's Strategic Plan (2012) states "Mars Hill will improve facilities, enhance grounds, and broaden sustainable practices to enhance the quality of life for students.

- Strategic Priority 7; Goal 2. Promote sustainability efforts across campus and in the community.
  - Objectives:
    - Increase student involvement and education regarding green initiatives.
    - Implement cost- effective energy usage measures
    - Develop and implement sustainability plan.
    - Adopt LEED practices when appropriate
    - Protect green areas on campus
    - Continue and improve campus wide recycling and trash disposal program
    - Market current sustainable projects" (Strategic Plan, 2012).

Mars Hill University has stated in the Strategic Plan that environmentally-based advancements should be created for the campus. Due to the current lack of environmental



literacy throughout the population of students attending higher education (Jennings, 2014), Mars Hill University like many other schools in the United States has a direct need for an environmental literacy plan. A well-implemented environmental literacy plan at Mars Hill University will foster students' connection to place as well as encourage an increase in environmental literacy and help fulfill the University's mission statement. In addition, this plan will create a well-rounded student responsibly connected with the community and world. Increasing literacy at Mars Hill University directly ties into the University's core Mission and Vision Statement as well as the University's Strategic Plan (2012). Mars Hill University is "committed to character development, service, and to responsible citizenship in the community, the region, and the world" (1997). The Mission of Mars Hill University further states in its vision "Mars Hill will be a preeminent private university, nationally recognized for transforming engaged learners into ethical citizens and successful leaders in an ever-changing world" (1997). For Mars Hill University to help succeed in making its students responsible citizens, in the community, region and world, a connection to place and an increase in environmental literacy must be fostered. A connection to place will both invest the student in their community, as well as give them a feeling of ownership for their actions and life.

A connection to place is vital since humans and their environment are transactional; whether positive or negative, there is an unbreakable connection (Cross, 2001). As a student becomes more invested in a location, their sense of place will in turn grow and they will hold a stronger sentimental feeling for that area (Fritz, 1981). Chinn (2005) states that one's ability to develop a sense of place plays a critical role in transformative learning which in turn leads to environmental literacy. As people possess a strong connection to place they could in turn become more connected to nature and thus empathetic to environmental teachings which could

lead to individuals achieving environmental literacy. The development of a sense of place is a crucial element to achieving environmental literacy (Chinn, 2005).

### **Purpose**

Therefore, the purpose of this project is to develop an Environmental Literacy Plan for Mars Hill University. If the environmental literacy plan is implemented, the students of Mars Hill University could become more environmentally literate, better invested citizens, and possibly better stewards of the environment. Creating an environmental literacy plan (ELP) for Mars Hill University could help educate its student population to be better invested community members, and possibly better stewards of the environment.

### **Definitions**

- Environmental Literacy - The ability to make informed decisions about issues affecting shared natural resources while balancing cultural perspectives, the economy, public health and the environment (Bennett et al., 2014; Brown & Garver, 2009).
- Environmental Literacy Plan - A literacy plan to help educate how the environment, ecosystems, and human systems are interdependent and relate to each other through a wide variety of subjects such as science, technology, engineering and math (Bennett et al., 2014; Brown & Garver, 2009).
- Environmental Education - The 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 (What is Environmental Education?, 2017).

- First-Year Experience - An internal program designed to help students prepare for their transition from their high school career to their new career in higher education. This program is designed to foster student success and develop a well-rounded campus community (Alleman et al., 2006).
- Sense of Place - A specific experience or feeling a person has in a certain location or situation (Fritz, 1981).
- Sense of Community- A sensation that members have of belonging, a feeling that individuals have value to one another as well as a group, as well as a communal understanding that an individual's needs will be met through the group's commitment (McMillan & Chavis, 1986).

## **CHAPTER 2.**

### **LITERATURE REVIEW**

Achieving environmental literacy throughout America is a hurdle that environmental educators face (Coyle, 2005). One of the reasons that environmental literacy is not met in America is because environmental literacy plans are not currently present or implemented in most K-12 school systems (Stubbs & Cocklin, 2008). Recently, great progress has been made with the passing of the Every Student Succeeds Act (ESSA, 2016) which earmarks government grant funds to implement environmental literacy programming in K-12 schools. However, considering recent legislative action, there is still a void in higher education. Data shows students transitioning from high school to university and college still do not possess strong environmental literacy (Coyle, 2005; Orr, 1991; Thapa, 1999). Jennings (2014) suggests that an environmental literacy plan can be created and implemented to help achieve literacy for students of higher education.

#### **What is Environmental Literacy?**

In the context of environmental education, environmental literacy refers to one's knowledge and awareness of environmental issues and how these issues might cause a more significant effect (NAAEE, 2006; Nair, Jones & White, 2002). Environmental literacy includes the understanding of fundamental principles concerning the environment and the effects the environment has on human life (Habibah & Punitha, 2009). The five keys aspects of environmental literacy are knowledge, attitude, behavior, awareness, and environmental involvement (Mcbeth & Volk, 2010). Environmental literacy also refers to one's positive involvement or the action and attitude one holds concerning the environment (Groenke & Puckett, 2006; Jannah, Halim, Meerah & Fairuz, 2013). If environmental literacy is increased,

across the general population, meaningful lasting change that will help protect the world's fragile natural resources could be facilitated (Fokkema, Jansen & Mulder, 2007; Philips, 2011).

### **Need for Environmental Literacy**

For many years environmental educators have worked to become a catalyst for creating influential programs and policies that propel humanity towards a progressive course (Conde & Sánchez, 2010). However, according to NAAEE (2006), many individuals still do not possess adequate environmental literacy. With an appropriate understanding of environmental issues through proper education we may be able to empower our future generations to possess the environmental literacy needed to make positive changes in our world (Rowe, 2002). Many hurdles must be overcome to adequately protect the environment and increase environmental literacy (Dale & Newman, 2005). As described by Brown and Garver (2009), environmental literacy is a deep understanding of humanity's interdependence with the natural world.

According to the Belgrade Charter (1975), environmental literacy is embodied in a citizen who possesses environmental awareness, knowledge, appropriate attitude, skills and a sense of responsibility to participate in a proactive solution for environmental concerns (Groenke & Puckett, 2006). A major contributing factor to the construction of sustainable policies however is the low priority that environmental literacy receives with respect to educational endeavors such as standardized and appropriately utilized curriculum within the school system (Wilson, 2000). Most educational governing bodies in both K-12 and higher education do not offer any core curriculum or minimum standardization that include a feature or emphasis on environmental education within the school system (Coyle, 2005; Rowe, 2002). Because of this absence, the overall level of environmental literacy within the American population leaves substantial room for development and improvement (Coyle, 2005; Philips, 2007). According to the NAAEE

(2006), environmental literacy is lacking in society due to an underutilized environmental education system within the United States. This underutilized environmental education system creates a detachment between the environment and its residents.

There is disconnect between humanity and the environment (Orr, 1991). Fokkema, Jansen & Mulder (2007) state it is because of this disconnection that many of today's environmental problems currently exist. Improving environmental literacy is important because without a greater understanding of the environment, individuals will continue making poor decisions that will further harm the world (Fokkema, Jansen & Mulder, 2007; Murray & Cotgrave, 2007). An increase of the number of environmentally literate citizens is needed (Fokkema, Jansen & Mulder, 2007; Philips, 2011). According to the NAAEE (2006), properly educated individuals will have a greater probability of becoming active citizens with a valued voice in democracy. NAAEE (2006) goes on to say that educated individuals could have a higher probability in making educated, informed decisions furthermore having a greater impact on the environment in a positive way. Without possessing an appropriate level of environmental literacy, environmental degradation will unfortunately continue at a staggering rate (Nair, Jones & White, 2002). A solution to halting the degradation of the environment is by influencing the population to become environmentally literate.

If environmental literacy increased across the general population there might be a call to action from society to governing bodies and corporations to make a more meaningful, sustainable change (Fokkema, Jansen & Mulder, 2007; Murray & Cotgrave, 2007). An educated population is potentially the largest, most powerful catalyst desired for progressive environmental change. Achieving environmental literacy is the ultimate goal for environmental

education (NAAEE, 2006). Without achieving basic literacy throughout society, there is little hope for facilitating the needed change to help the declining environment (Ashford, 2004).

The United States falls short in educating its citizens with the fundamental goal of achieving an acceptable level of environmental literacy (Coyle, 2005). According to Coyle's (2005) study, only one- third of American adults passed an environmental literacy test. After decades of attempting to increase environmental literacy only a small fraction of K-12 school districts offer any type of curricula based in environmental education, outside of basic earth sciences (Stubbs & Cocklin, 2008). While it may be true that overall environmental consciousness has risen over time, a lack of sound and detailed environmental knowledge is the stark reality (Coyle, 2005). Coyle, (2005) also states that American citizens lack comprehension of complex environmental subjects and thus must possess an appropriate level of environmental literacy. Without this minimum level of environmental literacy there is little to no hope for achieving a community of individuals with appropriate attitudes, knowledge, behavior or involvement centered on the environment (McBeth & Volk, 2010).

### **Environmental Literacy in K-12**

Recent advancements have been made in the public K-12 education system (Bodor, 2015). With the passing of the ESSA (2016), funding is now available to help K-12 school systems create an environmental literacy plan as well as increase environmentally based programming. The NAAEE (2006) is persistently working to enact environmental literacy plans within K-12 school systems, however many educational institutions have yet to implement such a plan. Due to the lack of literacy education across K-12 school systems, a void is left which higher education could potentially fill (Orr, 1991). An increase in environmental literacy is imperative to facilitate a significant lasting transformation that will help protect the world's

natural resources (Fokkema, Jansen & Mulder, 2007; Philips, 2011). Due to the educational void left by the K-12 school systems, colleges and universities are positioned well to facilitate environmental literacy plans with their student populations.

### **Environmental Literacy in Higher Education**

Orr (1991) suggests that colleges and universities are some of the best channels for increasing environmental literacy throughout the citizens of America. Many individuals who attend some form of higher education already possess a higher empathy towards the environment without any previous education (Thapa, 1999) compared to the general population whose education stopped at K-12. Additionally, data has shown that environmental literacy begins to decrease over time if not continuously utilized in daily activities (Rideout, Hushen, McGinty, Perkins, & Tate, 2005). Because of the need to increase environmental literacy, Rideout et al. (2005) suggests that environmental education be taught beginning with the K-12 educational systems and continue through a student's education at a college or university

Orr (1991) specifically states that environmental education should be intertwined through all facets of study, and the liberal arts model perfectly fulfills this recommendation. Janeksela (2012) states that a liberal arts education provides students with valuable skills for the world of work, for leadership, and most importantly it fosters effective citizenship. Environmental education is not, however, required within the core curriculum of most colleges and universities (Accrediting Standards, 2012).

Many colleges and universities based in the liberal arts require core credits from programs in literature, math, arts, and sciences (Bogart, 2017). Although most institutions of higher education offer or even require a basic science course, most schools have not implemented a multi-year curriculum that focuses on environmental literacy. Those that do



incorporate environmental literacy into their core curriculum are doing so with great success. Schools such as The University of Colorado and The University of Georgia have implemented environmental literacy plans and have shown growth in environmental literacy. The University of Georgia's plan particularly incorporates programs for incoming students and invests in training for faculty and staff to create a sustainably-minded community within the educational system. Goodnough and Hung's (2008) findings show for the student population to possess an appropriate level of environmental literacy, it is vital to utilize effective environmental lessons facilitated by appropriate teaching staff. Orr (1991) suggests that environmental education be incorporated into all classes throughout the academic catalog not simply specific classes.

The world's youth have historically played a primary role in political conflict and change (Barber, 2009). Although there are a multitude of untested theories as to why the world's youth are at the center of these movements, one's education is a recurring mechanism which fosters the desire for political change (Spellings, Barber & Olsen, 2012). For this reason, students who attend institutions of higher education are ideal candidates to become well-informed stewards of the environment. Due to a college graduate's higher level of education, they are consequently more likely to become involved in their community and to create lasting change (Lott, Hernandez, King, Brown & Fajardo, 2013). Combining the higher probability of community involvement with the overall goal of environmental literacy, these individuals are a perfect vehicle to help create progressive change in the world (Lott, Hernandez, King, Brown & Fajard, 2013; Thapa, 1999). According to NAAEE (2006) environmentally literate citizens will have the ability to articulate a position on environmental issues, recognize diverse cultural views, understand the interconnectedness of commerce and environmental consequences, as well as hold the ability to articulate the importance of place and human identity.

### **Environmental Literacy as a First-Year Program**

Environmental literacy could be implemented as students transition from high school into their college careers (Orr, 1991). Thapa (1999) states that many incoming students already possess great empathy for the environment leaving them more susceptible to obtain and retain greater information surrounding environmental education. This predisposition towards the environment could potentially make them better stewards of the environment compared to one who chooses to not further pursue their academic career. Because these transitioning students are so susceptible to possessing and retaining environmental literacy, they could be a beneficial population to educate.

Vinson (2008) found that students transitioning from high school to higher education greatly benefited from a first-year program allowing the individuals to become more invested on campus. Jennings et al. (2014) also found that, scored against the national average, environmental literacy was poor with incoming freshmen which may indicate a need for an environmental literacy curriculum to be implemented early within the student's career. Implementing an environmental literacy plan furthermore confirms that many individuals held empathy for the environment however still lacked basic understanding or literacy (Coyle, 2005). Jennings (2014) suggests that a FYO program could be an appropriate vehicle to facilitate an environmental literacy plan to increase literacy. Vinson's (2008) research also found that students transitioning from high school to higher education greatly benefited from a first-year program allowing the individuals to become more connected to campus life. FYO programs are proven to successfully help students become invested in the campus community as well as increase academic success in the classroom (Wischusen, Wischusen, & Pomarico, 2010). Through properly implemented FYO programs, students will build lifelong friendships, become

more successful in their academic career, as well hold a greater sense of community, and will facilitate a connection to place (Kuh, Kinzie, Buckley, Bridges, & Hayek, 2006). Chinn (2005) states that a student's ability to cultivate a connection to place plays an imperative role in leading that student to achieve environmental literacy. Students who are involved with a FYO program will additionally develop a strong sense of place helping to connect that individual to the natural environment as well as the community at large (Kudryavtsev, Krasny & Stedman, 2012). Fritz (1981) furthermore shows that as an individual invests more of themselves into a location their sense of place will likewise grow and they will possess a greater sentimental feeling with that location. By creating a likeminded community as well as developing a sense of place, college students could have a greater likelihood of achieving environmental literacy through transformative learning. Jennings' (2014) findings show that implementing an environmental literacy plan through a FYO program could yield meaningful results.

### **Mars Hill University's First-Year Orientation Program**

FYO programs are historically proven as successful ways to help students become involved and invested in the campus community as well as be more successful in the classroom (Wischusen et al., 2010). Mars Hill University, with great success, has implemented a program which focuses on helping first-year students become connected with the community in which they reside. Mars Hill University's FYO program is a year-long program that that helps transition first-year students to become active, invested student citizens on campus. The students meet as a class once a week with their professor as well as a student mentor. Each class has different topics of study pre-specified by the professor and the students can choose which class best fits their interest. In addition to scheduled classes, first-year students must achieve 200 community involvement points per year. Each community event is awarded a different point

value depending upon program length, and topic. Community involvement events are designed to engage students with the greater community and to build a strong connection to place. The community involvement program encourages students to choose programming opportunities that align with their interests allowing it to be a more valuable experience than simply mandating attendance. However, if a specific community involvement opportunity becomes available, professors may reserve the right to require their class to attend specific events. Mars Hill University however, does not focus these community events on environmental literacy. Mars Hill University has made great strides to increase a connection to place for its student population but more is still needed. Mars Hill University lacks environmental focus throughout the curricula and students continue to lack environmental literacy. An environmental literacy plan has the potential to work in conjunction with the FYO program to help bridge the gap and increase environmental literacy within Mars Hill University's community.

Mars Hill University's FYO program is an ideal vessel to increase environmental literacy through the student population. A professor within the program has the academic freedom to both teach a topic of their own desire as well as require extracurricular activities in which students may not normally participate. In addition to the extracurricular activities, the program itself is devoted to creating a sense of place. Utilizing a combination of a student's newfound sense of place in concert with the curricula included in an environmental literacy plan a student's level of literacy should increase accordingly.

Mars Hill University is committed to creating a meaningful sense of place for its students. This focus of building a sense of community while incorporating place-based education will seamlessly allow educators to incorporate environmental literacy modules into their daily lesson plans. Through this success, students have potentially become more connected

to the world through place based learning helping the student body become more invested in the local community and environment (Moody, Alkaff, Garrison, & Golley, 2005; Wischusen et al., 2010).

### **Moving Forward**

The environment is disintegrating at an alarming rate. Humanity grows ever more disconnected with the world's natural elements (Fokkema, Jansen & Mulder, 2007; Orr, 1991; The Literacy Gap, 2007). Without a dramatic increase in environmental literacy the American population will unfortunately continue to make poor decisions fostering a breakdown of the natural environment (Fokkema, Jansen & Mulder, 2007). Many organizations such as the NAAEE (2006) are working to help states introduce environmental literacy plans within K-12 systems, however after a thorough search; the majority of institutions have yet to implement these plans into the curricula. Because of this gap in K-12 school systems, the implementation of an environmental literacy plan in colleges and universities is strongly needed (Orr, 1991; Thapa, 1999). The sustainable knowledge gained by students could create an upsurge in educated, sustainable decisions that will become a catalyst for better governing within the world (Fokkema, Jansen & Mulder, 2007; Murray & Cotgrave, 2007).

### **CHAPTER 3.**

#### **METHODOLOGY**

The purpose of this project was to develop an Environmental Literacy Plan (ELP) for Mars Hill University. Mars Hill University's Strategic Plan has specifically stated a need to increase environmental literacy on its campus. Creating an ELP for Mars Hill University could help fulfill Mars Hill University's mission to educate its student population to be better invested community members and better stewards of the environment. Mars Hill University is committed to the student population's growth in character, commitment to service, and to creating responsible citizenship in the community, the region, and the world.

An essential part of creating the ELP for Mars Hill University was to appoint members to an Environmental Literacy Committee. Chairing Mars Hill University's Environmental Literacy Committee was Daniel Morris, a graduate student of Montreat College as well as the Director of Student Involvement at Mars Hill University. Morris brought knowledge of ELPs to the committee, as well as a strong understanding of Mars Hill University. Morris invited committee members and worked to bring together individuals that could offer a valued, well-rounded voice for the Mars Hill University. Although the input from a representative of Mars Hill University's Department of Natural Science would have been valued, the committee met over the summer term when most faculty members were not on campus. To bring validity to the committee, as well as a valued voice, all members were chosen to represent a specific department or demographic of Mars Hill University. Mars Hill University's Environmental Literacy Committee included the following individuals.

- Daniel Morris - B.S. Business Administration, Campus role - Director of Student Involvement, Committee Chair

- Weston Burgess - M.Ed. Guidance and Counseling, Campus role - Faculty Representative
- Mindy Bliss - Ed.D Organizational Leadership, Campus role - Dean of Students
- Brandon Rice - B.A. Political Science, Campus role - Student Government Association Representative
- Justin Schronce - B.A. History, Campus Role - Interim Director of First-Year Programs

After reviewing numerous options, The Director of Student Activities found the best action plan for Mars Hill University's Environmental Literacy Committee was described and created by Brad Sugars. Implementing an adapted version, of Sugars' (2016) *9 Steps to Develop a Plan for Action*, for the environmental literacy committee's meetings, supplied guidance to shape the creation of the environmental literacy plan for Mars Hill University. Sugars' (2016) guidelines were chosen over other action plans, in part, because of the clear step-by-step structure, as well as, the ability to seamlessly guide the Environmental Literacy Committee towards success. The benefits of this plan include the ability for the Environmental Literacy Committee to understand the process that makes the development of environmental literacy a viable and integral part of students' academic development.

The Committee Chair organized weekly meetings for the Environmental Literacy Committee to follow the Sugars' planning model. This included discussing goals, objectives, and developing recommendations for implementation and budget. The initial meeting of the Environmental Literacy Committee involved Morris sharing with the other committee members examples of existing ELPs as well as providing Sugars' planning process. Throughout subsequent meetings, Morris brought forward suggestions for goals, objectives, and an outline for Mars Hill University's ELP. Once the committee determined the goals and objectives for the

plan, the details of the ELP were created so that a trial run could be implemented the following academic year. If the initial trial program proved to be successful, then Mars Hill University's ELP could be added as a sub program within the FYO curriculum. The construction of the ELP helps to fulfill the school's mission and vision statement.

Sugars' (2016) amended nine-step process is described in conjunction with the details of how Mars Hill University's Environmental Literacy Committee created the ELP

1. Express your solution as a series of goals, (Step 1, Sugars, 2016).

With the guidance of Dan Morris, the Environmental Literacy Committee Chair, Mars Hill University's Environmental Literacy Committee found, Mars Hill University has a direct need to increase environmental literacy on campus. Therefore, the Environmental Literacy Committee was established to meet the overall goal of creating an ELP that could later be implemented on campus for the student population. The overall the goal of the ELP is to increase environmental literacy on the Mars Hill University campus.

2. Generate a list of actions for each goal, (Step 2, Sugars, 2016).

To best create an Environmental Literacy Plan for Mars Hill University the Environmental Literacy Committee identified multiple components that were vital to the process of increasing environmental literacy on campus. The Environmental Literacy Committee determined that to achieve the goal of increasing environmental literacy for Mars Hill University students, the following series of actions had to be completed:

- Create environmentally-related definitions specific to Mars Hill University.
- Create a way of increasing a sense of place for Mars Hill University's students.
- Determine ways of investing environmentally-related training and adequate professional development for the Mars Hill University faculty and staff.



- Find ways of adjusting existing curricula to meet the goal of increasing environmental literacy on a college campus.
- Develop assessment methods to measure the changes in environmental literacy.
- Suggest a plan to implement the ELP.

The Literacy Committee found it prudent that Mars Hill University create a series of guiding definitions specific to Mars Hill University. During an initial meeting Morris supplied the Environmental Literacy Committee with an array of definitions and guiding terms. The Environmental Literacy Committee worked together to synthesize the provided information and create definitions specific to Mars Hill University. These definitions were created to be guiding terms to aid Mars Hill University to move towards environmental literacy. After creating definitions specific to Mars Hill University and reviewing documents such as the ELP for New York, the ELP for North Carolina and the University of Colorado's ELP, Mars Hill University's Environmental Literacy Committee suggested three goals that could be addressed to meet the ultimate goal of increased environmental literacy on the Mars Hill University campus. The goals listed below were inspired by the other environmental literacy plans. These goals were created specifically for Mars Hill University.

- **Goal 1- Create a Sense of place**
  - How will Mars Hill University better foster a sense of place with the student population?
- **Goal 2- Create professional development opportunities for** professors, para-professional and full-time staff.
  - Provide on-campus opportunities to learn more about environmental literacy.

- **Goal 3 – Develop student-centered curricula**

- Develop a formal education plan
  - How will environmental literacy be taught in the classroom?
- Develop a non-formal education plan
  - How will environmental literacy be taught outside of the classroom?

The first suggestion was to create a sense of place to foster an increased probability of achieving environmental literacy for the student population. The Environmental Literacy Committee additionally suggested that investing in the faculty and staff of Mars Hill University by increasing professional development opportunities, faculty and staff would inspire increased environmental literacy in the students, as well as, provide increased administration buy in. Another objective of the Environmental Literacy Committee was to incorporate suggestions for increased classroom curriculum related to EL into Mars Hill University's Literacy Plan. Finally, the Environmental Literacy Committee Chair (Morris) suggested that an assessment policy be created to ensure program success in the future. Once the initial Environmental Literacy plan was completed the Committee Chair furthermore suggested that a dual stage implementation plan be created that could both test the value of Mars Hill University's ELP and further ensure program success.

3. Prepare a timeline, (Step 3, Sugars, 2016).

To ensure success that an Environmental Literacy Plan was completed for Mars Hill University in a timely fashion, the Committee Chair suggested that the Environmental Literacy Committee meet weekly to ensure adequate progress be made. It was discussed in the first committee meeting that The Environmental Literacy Plan should be completed in August 2017.

If individuals were not able to meet, emails were sent to the entire committee allowing all individuals to stay up-to-date and voice any concerns that might arise.

4. Identify possible problems, (Step 4, Sugars, 2016).

During the planning process, the Environmental Literacy Committee was able to identify potential problems. The first problem identified by the Environmental Literacy Committee was to determine which faculty or staff member of the University was going to ensure the ELP would be utilized in Mars Hill University's current program. Finally, the Environmental Literacy committee was concerned as how to best house the program's activities. It was then decided by the Environmental Literacy Committee that the ELP could best be implemented in the FYO program and administered by the Director of Student Involvement, Daniel Morris.

Working in a round table discussion the Environmental Literacy Committee agreed that Daniel Morris, the Committee Chair, would ensure that Mars Hill University's ELP was utilized in the school's FYO program. Since Morris had the most experience in environmental education and held an adequate understanding of environmental literacy plans, his knowledge and experience made him the most applicable candidate.

The Environmental Literacy Committee suggested ways of increasing faculty and staff buy-in multiple ways. Increasing professional development opportunities on campus could potentially increase the level of environmental literacy throughout the university. In addition to professional development, the Environmental Literacy Committee suggested that after the initial trial run of the ELP, a presentation should be created that illustrates the value of Mars Hill University's ELP and the ELPs outcomes.

5. Develop strategies for monitoring progress, (Step 5, Sugars, 2016).

The Environmental Literacy Committee created an outline and measureable objectives for the Environmental Literacy Plan. Understanding that the Committee desired to have a completion date by August of 2017, the Committee Chair worked with members to ensure the document be completed in a timely fashion.

6. Assign tasks, (Step 6, Sugars, 2016).

Each member of the environmental literacy committee was assigned tasks throughout the process. All members were selected to be advisors to create Mars Hill University's ELP and the Committee Chair volunteered to be the document's architect and primary author. Each committee member offered immeasurable insight and valuable recommendations from a point of view that only their role on campus could recommend.

7. Estimate costs, (Step 7, Sugars, 2016).

The Chair of the Environmental Literacy Committee offered departmental funding to finance implementation of Mars Hill University's ELP if needed. With funding through the Department of Campus Recreation the Environmental Literacy committee estimated an initial budget request of \$1,500. What types of things will this cover...vans, guest speakers? The Environmental Literacy Committee expects these funds to cover any costs that might be incurred throughout the trial period of the ELP. If additional funds are required, for programs such as professional development or transportation related to the program, the Department of Student Activities has offered to supply additional funding if necessary.

8. Implement the plan, (Step 8, Sugars, 2016).

The Environmental Literacy Committee suggested that the ELP be implemented in one FYO class as a pilot program. After a one-year trial program takes place, the Environmental

Literacy Committee would like to schedule a meeting with the Department of Institutional Research to obtain a better understanding of the value of the Environmental Literacy Program.

Mars Hill University has a desire to increase environmental literacy within the University's community. Wishing to fulfill Mars Hill University's Mission and Vision Statement, an ELP was created that could increase environmental literacy, growth in character, a dedication to service, and finally a commitment to fostering responsible citizenship in the community, the region, and the world.

Prior to the publication of Mars Hill University's ELP, an expert committee reviewed all documents submitted by the Environmental Literacy Committee. The expert committee worked to ensure all Environmental Literacy Committee recommendations followed industry standards and made suggestions to be included in the plan.

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**APPENDIX: ENVIRONMENTAL LITERACY PLAN**



## ENVIRONMENTAL LITERACY PLAN



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### **COMMITTEE MEMBERS**

- Daniel Morris - B.S. Business Administration, Campus role - Director of Student Involvement, Committee Chair
- Weston Burgess - M.Ed. Guidance and Counseling, Campus role - Faculty Representative
- Mindy Bliss - Ed.D. Organizational Leadership, Campus role - Dean of Students
- Brandon Rice - B.A. Political Science, Campus role - Student Government Association Representative
- Justin Schronce - B.A. History, Campus Role - Interim Director of First-Year Programs

### **INTRODUCTION**

Mars Hill University is a Christian university located on the border of North Carolina and Tennessee. Positioned in the heart of the Appalachian Mountains, the area hosts the tallest mountain range east of the Mississippi River, Pisgah National Forest, pristine waterways, species native only to the region, and a booming tourism market. Mars Hill University is proud of its history and honored to provide a quality education to the local community. With a student population hovering just below 1,200 and the faculty, staff population nearing 400 the school prides itself on small class sizes and a tight-knit community. Under the leadership of President Dan Lunsford, the school has facilitated a successful capital campaign which led to the current expansion of Mars Hill University's physical plant. A strategic plan for the University was also published as guidance for the future. In 2012, Mars Hill University published *The Transformation to University Status*

*Strategic Plan 2012-2017* as guidance for the coming years. Mars Hill University's strategic plan highlights eight strategic priorities for the university. Strategic Priority:

1. Mars Hill will reinforce its position as the preeminent private university in Western North Carolina
2. Mars Hill will review current academic programs, enhance appropriate academic programs to improve teaching and learning, and develop new academic programs in response to the demands of the twenty- first century
3. Mars Hill will broaden student learning through extra- and co- curricular engagement opportunities
4. Mars Hill will become a significantly larger institution
5. Mars Hill will encourage the formation of ethical decision-making skills and maintain an environment conducive to Christian faith development
6. Mars Hill will enhance resources to support programs and services for students and employees
7. Mars Hill will improve facilities, enhance grounds, and broaden sustainable practices to enhance the quality of life for students
8. Mars Hill will enhance athletics programs to attain greater students and team success

Strategic Priority 7 specifically describes the need to develop sustainable practices to enhance the quality of life for students. Mars Hill University's Strategic Plan (2012) additionally states "Strategic Priority 7, Mars Hill University will improve facilities, enhance

grounds, and broaden sustainable practices to enhance the quality of life for students.” The two Goals are further described and listed with objectives and desired outcomes.

- Goal 1: Develop a master plan for facilities and grounds
- Goal 2: Promote sustainability efforts across campus and in the community
  - Objectives:
    - Increase student involvement and education regarding green initiatives
    - Implement cost-effective energy usage measures
    - Develop and implement a sustainability plan
    - Adopt LEED practices when appropriate
    - Protect green areas on campus
    - Continue and improve campus wide recycling and trash disposal program
    - Market current sustainable projects

Mars Hill University has a unique opportunity to help ensure success of the Strategic Priority 7. By creating an environmental literacy committee Mars Hill University could create an environmental literacy plan that works in concert with existing programs on campus. Working in conjunction with pre-established programs Mars Hill University could have a higher rate of success that could yield meaningful results, and increase environmental literacy in the campus community. Mars Hill University’s environmental literacy committee believes that to ensure success in achieving Goal 7 of the Strategic Plan, partnering with the

First-Year Orientation program as a vessel to implement an environmental literacy plan is a valued course of action.



### **MARS HILL UNIVERSITY'S FIRST-YEAR ORIENTATION PROGRAM**

First-Year Orientation (FYO) programs are historically proven as successful ways to help students become involved and invested in the campus community as well as be more successful in the classroom (Wischusen, Wischusen, & Pomarico, 2010). Mars Hill University, with great success, has implemented a program which focuses on helping first-year students become connected with the community in which they reside. Mars Hill University's FYO program is a year-long program that helps transition first-year students to become active, invested student citizens on campus and the community. The students meet as a class once a week with their professor as well as a student mentor. Each class has different topics of study pre-specified by the professor and the students can choose which class theme best fits their interest. In addition to scheduled classes, first-year students must complete a number of community involvement events. Community involvement events are designed to engage students with the greater community and to build a strong sense of belonging. The

community involvement program encourages students to choose programming opportunities that align with their interests allowing the program to be a more valuable experience than simply mandating attendance. However, if a specific community involvement opportunity becomes available, professors can reserve the right to require their students to attend specific events.

Mars Hill University however, has not yet focused these community events on increasing environmental literacy. Mars Hill University has made great strides to increase a sense of belonging for its student population however improvements could still be made. Mars Hill University lacks environmental focus throughout the curricula and students most likely could continue to lack environmental literacy. To further support Mars Hill University's Strategic Plan and the need to increase environmental literacy on the campus of Mars Hill University this environmental literacy plan has been created. This environmental literacy plan has the potential to work well in conjunction with the FYO program to help bridge the gap and increase environmental literacy within Mars Hill University's community.

Mars Hill University's FYO program is an ideal vessel to increase environmental literacy through the student population. A professor within the program has the academic freedom to both teach a topic of their own desire as well as require extracurricular activities in which students may not normally participate. In addition to the extracurricular activities, the program itself is devoted to creating a sense of place. Utilizing a combination of a student's newfound sense of place in concert with the suggested curricula in an

environmental literacy plan, a student's level of literacy could potentially increase accordingly.

### **DEFINITIONS SPECIFIC TO MARS HILL UNIVERSITY**

Mars Hill University's Environmental Literacy Committee held a round table discussion to create definitions specific to Mars Hill University. These definitions were created to be guiding terms to help the University create environmentally literate citizens as well as ensure that all guiding principles follow the University's Mission and Vision Statement. By creating terms specific to Mars Hill, the University could have a greater chance of achieving its goal to promote sustainability efforts on campus and the community.

- **Environmentally Literate Citizen-** Mars Hill University believes an environmentally literate citizen is an individual that possesses an adequate understanding of the environment and its connectedness to the greater world.
- **Environmental Literacy-** The ability for an individual to make a well informed, and fact based ethical decision, about issues affecting the natural environment. Individuals will additionally hold an adequate understanding of the environment and its interconnected workings (Bennett et al., 2014; Brown & Garver, 2009).
- **Environmental Literacy Plan-** A plan created to define ways to help increase an understanding of the environment, to increase one's connectedness to the world, and help facilitate a sense of place and belonging to a greater community as well as create responsible citizenship to meet Goal 7 of the Strategic Plan (Bennett et al., 2014; Brown & Garver, 2009).

- First-Year Orientation- A first-year program developed to ensure first-year students succeed in their academic career. This program ensures students obtain a sense of place and community on campus in addition to making them a more successful student and invested individual in the Mars Hill University community (Alleman et al., 2006).
- Sense of Place- A meaningful connection to an area that is entwined with one's personal identity (Cross, 2001).



### **GOALS FOR ENVIRONMENTAL LITERACY PLAN**

The Environmental Literacy Committee determined the following goals be included in the literacy plan. To achieve an increased level of environmental literacy on Mars Hill University's campus it was found that the Environmental Literacy Committee would need to:

- Create a sense of place
- Create professional development opportunities
- Develop student-centered curricula

In addition to the three goals described by the Environmental Literacy Committee the Committee Chair, Daniel Morris further suggested a need for program assessment and an implementation process.

### **GOAL 1 - CREATE A SENSE OF PLACE**

- Goal:
  - Create a sense of place for Mars Hill University's students
- Objectives:
  - Use Mars Hill University's pre-orientation program to increase a student's sense of place.
  - Provide recommendations as to programs that could increase a sense of place.
  - Utilize the Community involvement program to engage students and encourage their involvement in the local region.

Mars Hill University is committed to creating a meaningful sense of place for its students. This focus of building a sense of community while incorporating place-based education will seamlessly allow educators to incorporate environmental literacy modules into their daily lesson plans. Through the FYO program, research has shown that students have become more connected to the world through place-based learning because it helps



students become more invested in the local community and environment (Moody, Alkaff, Garrison & Folley 2005; Wischusen et al., 2010).

A connection to place is vital since humans and the environment are mutually dependent upon each other, whether positive or negative there is an unbreakable connection (Cross, 2001). As a student becomes more invested in a location their sense of place will in turn grow and they will hold a stronger sentimental feeling for that area (Fritz, 1981). Chinn (2005) states that one's ability to develop a sense of place plays a critical role in transformative learning which in turn leads to environmental literacy. As people possess a strong connection to place they will in turn become more connected to nature and thus empathetic to environmental teachings which in result could lead to individuals achieving environmental literacy. The development of a sense of place is a crucial element to achieving environmental literacy (Chinn, 2005).

Chinn (2005) states that a student's ability to cultivate a connection to place plays an imperative role in leading that student to achieve environmental literacy. Students who are involved with a FYO program could additionally obtain a strong sense of place helping to connect that individual to the natural environment as well as the community at large (Kudryavtsev et al., 2012). Fritz (1981) additionally states, as an individual invests more of themselves into a location their sense of place will likewise grow and they will possess a greater sentimental feeling with that location. By creating a likeminded community as well as developing a sense of place, students could have a greater likelihood of achieving environmental literacy through transformative learning. Jennings, Smith and Gosh (2014)

found that implementing an environmental literacy plan through a FYO program could yield positive outcomes when trying to achieve environmental literacy.

Mars Hill University can help create a sense of place several ways. Mars Hill University currently strives to grow a sense of place through school spirit at sporting events, Campus Activities Board programming opportunities, Religious Life services, Presidential Lecture Series events, and experiential education opportunities as well as utilizing the Community Involvement program and the FYO model. The FYO model specifically strives to grow a sense of place as well as build community for the campus population. The FYO program is broken up into three main components, the Pre-Orientation, the community involvement program, and finally year-long academic course. Each component of the FYO program allows opportunity for students to obtain a sense of place, as well as increase environmental literacy.

### **Mars Hill University's First-Year Pre-Orientation.**

Mars Hill University has a unique FYO program compared to other schools. As incoming first-year students transition from their high school career to their career in higher education, Mars Hill University works specifically to create a sense of belonging for all the students. This sense of belonging however could be more focused on the environment and in turn environmental literacy by adding some components within the student's first semester of school that connect more directly to the natural environment. It is suggested to increase a sense of place and in turn possibly increase environmental literacy on campus, all first-year students attend a series of preplanned events specifically designed to fit the parameters of

the program. These programs will coincide parallel with the FYO Pre-Orientation's first week of activities that are already in place.

It is recommended that incoming students partake in some of the following programming opportunities parallel with the FYO program to help foster a sense of place for the new incoming demographic. It is furthermore suggested by the committee that 50% of a student's Pre-Orientation program should include access to some of the following items.

- Attend a multi-day camping trip in Pisgah National Forest.
  - Explore Mount Mitchell State Park
  - Discover the French Broad River via a whitewater rafting trip.
  - Partake in a rock climbing trip in Linville Gorge.
- Spend an evening exploring Asheville, North Carolina.
- Utilize Glory Ridge as a catalyst to better explore the region.
- Explore Graveyard Fields in the height of summer bloom.
- Participate in Navitat's environmental exploration program.
- Better utilize Mars Hill University's on campus outdoor areas.
  - Educate students and faculty on the green spaces Mars Hill University already has.
  - Further invest in Mars Hill University's green spaces on campus.
- Encourage use of Mars Hill University's Disc Golf Course.
- Visit the North Carolina Arboretum.

Concluding a student's pre-orientation, the Environmental Literacy Committee recommends that all individuals participate in a survey to understand the value of suggested programs in relation to developing a sense of place.

**The year-long experience.**

In addition to the first week of the FYO programming activities the year-long class will be utilized to further implement a sense of place and community to help the individuals become successful students at Mars Hill University. The FYO model currently incorporates a year-long class with a professor as well as an upper-class student leader. Each individual class has a pre-determined topic with previously set goals.

To increase a connection to place as well as increase environmental literacy on Mars Hill University's campus it is recommended that the FYO class become a designated vessel to incorporate environmentally focused topics and experiences. It is moreover suggested that the professor choose a topic which focuses on the local environment and the need to care for it.

In addition to classroom study Mars Hill University incorporates the community involvement program. Replacing the student work program (for first-year students only) with the community involvement program has helped increase a sense of community on campus. All first-year students are required to achieve two hundred points through the entire community involvement program. Each program is assigned a point value based on the length and type of program. To help increase a student's environmental literacy, the plan recommends some community involvement opportunities should have an environmental

focus. Mars Hill University students must achieve one hundred community involvement points per semester. The plan recommends that within each semester a student should obtain five points per month or 20% of their total hours with an environmentally-related community program. By mandating that a student achieve five points each month the students could have a higher probability of achieving an adequate level of environmental literacy. This model furthermore encourages students to appropriately space out their learning allowing them possibly to have a more valuable experience (Orr, 1991).

A series of community involvement programs specifically tailored to be environmentally focused could include, but are not limited to the following options.

- Partake in a specific lecture or series of environmental presentations.
- Attend one of the organized interpretative trail hikes to Bailey Mountain.
- Explore the Cradle of Forestry.
- Visit the Appalachian Heritage Museum.
- Explore The North Carolina Arboretum.
- Spend a weekend backpacking on Grandfather Mountain, or Mount Mitchell.

It is additionally suggested to assess the value of the environmentally focused community involvement programs each student should complete a survey adapted from Larson, Freitas, and Hicks (2013) that measures one's sense of place. Requiring completion of an adapted version of the survey at the end of each month could provide valuable data to understand environmental literacy for Mars Hill University's student population in addition to an increased sense of place and community for the University.



## **GOAL 2- CREATE PROFESSIONAL DEVELOPMENT OPPORTUNITIES**

- Goal
  - Increase environmental literacy for Mars Hill University's faculty and staff by offering professional development.
- Objectives
  - Faculty and staff will have increased access to professional developmental opportunities, related to environmental literacy.
  - Faculty and staff will partake in surveys to measure the level of environmental knowledge.

It is recommended that Mars Hill University earmark funds specifically designated to increase professional development opportunities related to increasing environmental

literacy. These opportunities should be available for professors, adjunct professors, para-professionals, full and part time staff employed by the University. It is suggested that these professional development opportunities include environmentally related guest lectures on campus, experiential learning opportunities, attendance of conferences, as well as partaking in webinars. An additional suggestion by the committee is to conduct seminars that incorporate modified content from, established environmental education materials such as Project WILD, Project WET and Project Learning Tree (NAAEE, 2006).

It is furthermore recommended that the faculty and staff partake in yearly surveys such as the Middle School Environmental Literacy Survey (MSELS) adapted to higher education (McBeth et al., 2011). The survey could be adapted and furthermore could provide a better understanding of the needs that Mars Hill University's academic leaders face in relation to understanding environmental literacy content. Once Mars Hill University has a better understanding of the needs faced by the faculty and staff, the Environmental Literacy Committee will review the data and create an additional plan for increasing environmental literacy for the university's employees. This plan will specifically be tailored to the outcomes of the survey. With Mars Hill University's investment in its faculty and staff through adequate professional development the university will be better equipped to help further grow environmental literacy through the campus' population and meet the goals from Mars Hill University's Strategic Plan 7.



### **GOAL 3- DEVELOP STUDENT-CENTERED CURRICULA**

- Goal
  - Utilize the FYO curricula to increase environmental literacy for first-year students.
  - Encourage professors to choose a topic which is conducive to increasing environmental literacy.
- Objectives
  - Environmental literacy education will be taught in the classroom.
  - Students will be tested at the end of the year to obtain a better understanding of their knowledge.

Achieving environmental literacy will require collaborative work both inside and outside of the classroom. The plan suggests that environmental literacy be taught in the classroom through the FYO Program. With the implementation of the environmentally focused FYO program Mars Hill University looks forward to achieving an increased level of environmental literacy with its first-year student population.



For the first-year student demographic to achieve environmental literacy at Mars Hill University it is proposed that the FYO instructor choose a topic that is environmentally themed. It is additionally recommended that the professors retain the freedom to choose a topic that they feel they might specialize in to create a meaningful classroom experience. In addition to the professor choosing the courses theme and topic, it is suggested that the curricula incorporate the following elements to ensure environmental literacy teachings are included in the curricula. Instructors can

- Integrate content from, proven environmental education materials such as Project WILD, Project WET and Project Learning Tree (NAAEE, 2006).
- Integrate service learning experiences with an environmental focus throughout the course syllabus specific to environmental literacy.
- Utilize experiential education in the environment throughout the course schedule.
- Utilize environmentally-themed guest lecturers in the class room setting to help encourage students to explore the local environment.
- Utilize environmental education centers to help supplement classroom lessons.

Environmental topics will be taught throughout the FYO program and because of increased academic knowledge in the classroom; Mars Hill University hopes to increase environmental literacy with its entire first-year student population. However, a student's career in the classroom is only a fractional amount of time compared to their out-of-class

experience. It is suggested that the FYO program additionally utilize out-of-class experiences through informal environmental education experiences to continue the focus on increasing environmental literacy with the first-year student demographic. In addition to the community involvement program, supplementary programming opportunities should be added to the campus activities calendars which additionally support increasing environmental literacy on Mars Hill University's campus. Some non-formal opportunities could include utilizing:

- Mars Hill University's Outdoor Center to go
  - Whitewater rafting
  - Rock climbing
  - Backpacking
  - Caving
- Cycling Team
  - Create a bike share program
- Residence Hall Programs
  - Hike to Bailey Mountain
- Wellness Center
  - Outdoor Fitness Course
- Student Government Association
  - Start a recycling initiative
  - Offer smoke free campus / smoking locations on campus

- Religious life
  - Offer a seminar on climate change and religion
  - Offering environmentally-focused Prayer walks and mediation
- Self-Guided opportunities
  - Tour Mars Hill University's Arboretum
  - Hike on the Blue Ridge Parkway
  - Tube the French Broad River
  - Visit the North Carolina Nature Center

Concluding a student's experience in the classroom it is suggested that an environmental literacy survey be conducted by the professor to measure a student's environmental understanding and knowledge. By utilizing an appropriate assessment model professors will have the ability to adjust teaching methods and class lessons to better achieve their pre-determined goals.



### **SUGGESTIONS FOR PROGRAM ASSESSMENT**

Upon completion of the FYO program, students should be able to demonstrate an appropriate level of environmental literacy. Mars Hill University's Department of Institutional Research with the recommended aid of the Middle School Environmental Literacy Survey (MSELS) adapted to higher education could create an assessment tool that could be utilized to best assess the value of the program as well as a student's level of environmental literacy (McBeth et al., 2011). Students, faculty and staff could additionally supply further information through focus groups, as well as interviews. Both qualitative and quantitative data should be collected to better provide understanding of the student population's level of environmental literacy to aid data possibly gathered from the MSELS. It is recommended to ensure that upon completion of the survey the environmental literacy committee will

reconvene to make suggestions to better improve the following year's program. Mars Hill University's Environmental Literacy Committee recognizes that the Mars Hill University's Department of Institutional Research has their own policies and procedures for procuring data on the University's campus. The Environmental Literacy Committee suggests that at an appropriate time the Department of Institutional Research join a round table discussion with the Literacy Committee to ensure that any assessment models such as the MSELs tool be connected to the goals of Mars Hill University.

### **SUGGESTED IMPLEMENTATION PLAN**

Applying adjustments to or creating a new curriculum within an existing program has potential to be a challenging experience at any institution. To alleviate the strain of implementing a new program Mars Hill University's Environmental Literacy Committee has proposed a model which could best fit the needs of the University. Mars Hill University's ELP could be implemented in a two-stage process. Both stages will have the final goal of increasing environmental literacy for the greater Mars Hill University community while ensuring a student's academic success and administration buy-in. The first step to implementing the ELP is through the utilization of a trial program with a single class. Mars Hill University's Environmental Literacy Committee suggests that the initial trial program follow the guidelines published in Mars Hill University's ELP. If data following the trial program gathered from Mars Hill University's Department of Institutional Research shows that environmental literacy was indeed increased then a formal proposal will be submitted to

Mars Hill University to potentially have the environmental literacy plan implemented into the entire first-year orientation curriculum.

Implementing Mars Hill University's Environmental Literacy Plan through a two-stage process could yield major benefits. The Literacy Committee feels that this multi-stage process could allow Mars Hill University to better understand the data and the implications of this literacy plan before the ELP be utilized across the entire first-year student demographic. The two-stage process could additionally allow adjustments to be made to the ELP if needed before implementation across the curricula. The Environmental Literacy Committee furthermore suggests that following the trial period a presentation be made available to the campus community to share the Department of Institutional Research's findings. Presenting the findings could potentially yield a positive impact on Mars Hill University's campus community allowing institutional feedback and furthermore faculty and staff buy-in with the program.

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### **ADDENDUM**

To help ensure success of Mars Hill University's Environmental Literacy Plan an expert committee was assembled to ensure program success. The expert committee included professors of environmental education:

Dottie Shuman, Ph.D.

Brad Daniel, Ph.D.

After a review of Mars Hill University's Environmental Literacy Plan, the expert committee recommended that the Environmental Literacy Committee:

- Expand the Environmental Literacy Committee members to include a faculty member from the science department as well as a representative from Mars Hill University's Department of Institutional Research.
- Include a pretest to be added to the ELP's assessment so that a better understanding of an individual's growth in environmental literacy could be calculated.
- Research more survey models to find a better scale or encourage Mars Hill University's Department of Institutional Research to modify the MSELs survey.
- Further describe how the Environmental Literacy Committee hopes to increase faculty and staff "buy-in" for Mars Hill University's Environmental Literacy Plan.