THE INFLUENCE OF SCHOOL CULTURE ON ENVIRONMENTAL EDUCATION INTEGRATION: A CASE STUDY OF TRINITY SCHOOL IN ATLANTA, GEORGIA

by

STEPHANIE SHUMACHER

(Under the Direction of Nicholas Fuhrman)

ABSTRACT

The objectives of the study were to understand what characteristics, resources, incentives, and barriers exist and influence the integration of Environmental Education (EE) at Trinity School in Atlanta, Georgia. Qualitative research methods were used to conduct interviews with teachers and administrators at the school. Twenty-two domains were found that influence the integration of EE at the school. Some of the domains include resources, support systems at the school, incentives for teaching, and the decision by stakeholders to make EE important. Community-based Social Marketing theory is suggested as a strategy to be used by other schools who want to integrate EE with current curriculum.

KEY WORDS: environmental education, culture, organization change, Community-based Social Marketing
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Dean of the Graduate School
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DEDICATION

This thesis is dedicated to Lucy and Jackson, my furry friends.
ACKNOWLEDGMENTS

I have a number of people to thank for the completion of this thesis. Thank you to my advisor, Dr. Nick Fuhrman. Without our weekly meetings and your constant suggestions and guidance this would never have been completed. Whenever I felt overwhelmed you reminded me that everyone feels that way. You cheered me on the whole way and let me know how proud you were. Thank you.

Thank you to the other members of my committee, Dr. Cory Buxton and Dr. Dennis Duncan. I knew your doors were always open if and when I needed help.

I want to thank Trinity School for allowing me to study their program. The teachers and faculty at the school were willing to answer all my questions and opened their classrooms to me whenever I asked. Your program is an inspiration and something that all schools should strive for.

I want to thank my parents for their never ending faith in me. Although they were always asking me how the thesis was going, they knew when it was time to leave it alone and talk about something else. I could not have finished graduate school without you.

Lastly I want to thank my husband Peter. I know I have not been the most pleasant person to live with this past semester. Thank you for your patience and understanding. You were there when I needed a distraction but always helped me get
back on track when it was time to work. I cannot wait to spend my upcoming free time with you!
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CHAPTER 1

INTRODUCTION

In this chapter the benefits and barriers to implementing Environmental Education (EE) in the classroom will be presented. In addition there will be a discussion of school culture and an explanation of how Community-based Social Marketing can be used as a method to create organizational change.

Environmental Education

There are many ways to define Environmental Education (EE). According to Woodhouse and Knapp (2000), EE’s main purpose is to “provide meaningful contextual experiences- in both natural and constructed environments- that complement and expand classroom instruction” (Woodhouse & Knapp, 2000, p. 2). In the 1989 book *Harvesting One Hundredfold*, Donella Meadows defines EE as, “the preparation of people for their lives as members of the biosphere. It is learning to understand, appreciate, work with, and sustain environmental systems in their totality” (Meadows, 1989, p. 3). And the North American Association for Environmental Education defines EE as, “a process that enables people to acquire knowledge, skills, and positive environmental experiences in order to analyze issues, assess benefits and risks, make informed decisions, and take responsible actions to achieve and sustain environmental quality” (NAAEE, 1993). In its simplest definition, EE is an opportunity for children to leave the classroom and have
meaningful experiences outside. EE seeks to move participants from awareness to pro-environmental action (Brewer, 2001; Hudson, 2001; Jacobson, 1999). These experiences allow them to build a relationship with the natural world around them and develop an appreciation of it.

The American ecologist Garrett Hardin once said that, “a citizen of the modern world must be educated to be literate (able to read and write), and to be ‘numerate’ (able to understand and use numbers), and to be ‘ecolate’-able to understand and use sustainably the complex environmental systems of which he or she is apart” (Hardin, as cited in Meadows, 1989, p. 3). Students must have the opportunity to participate in EE activities in order to become “ecolate”. In today’s society many children are disconnected from nature. Richard Louv calls this disconnect “nature-deficit disorder” and feels it is the responsibility of the adults in our society, such as teachers, to help children reconnect with nature. “Reducing that deficit-healing the broken bond between our young and nature-is in our self-interest, not only because aesthetics or justice demands it, but also because our mental, physical, and spiritual health depends on it” (Louv, 2005, p. 3).

Children need experiences with the natural environment to broaden their views on the world and give them understanding about their place in it. Teachers have a responsibility to teach EE to their students just as they have a responsibility to teach them to read and write.

Studies have found that there are a number of benefits to teaching EE to children. EE serves as a source of “real-world learning experiences” that help children develop critical thinking and problem solving skills (Ernst, 2007, p.17). These skills not only help children become successful in school, they help them to become successful participants
in a democratic society. In addition to developing problem solving skills, EE has helped students achieve positive outcomes in other areas of school such as reading, math, science, motivation, and leadership. (Ernst, 2007) A study by Dyment (2005) found that students who participated in EE activities were more likely to score better on standardized tests, have renewed enthusiasm for learning, and become more active and engaged in their local community (Dyment, 2005).

If the benefits of teaching EE are so great, why are so few teachers teaching environmental education in their classrooms? Eleven barriers to teaching environmental education in the classroom were found in the literature review for this thesis. The papers found covered a span of 20 years and many of the same barriers were repeated. The barriers include:

1) Finding relevant EE materials that can be easily linked to the curriculum
2) Lack of natural spaces or settings to conduct environmental education activities
3) Lack of administrative support for teaching environmental education activities
4) Lack of teaching time during the day for extra subjects like environmental education
5) Teacher comfort and confidence in science and background knowledge with environmental education activities
6) Safety and liability issues
7) Funding for equipment and other supplies
8) Class size
9) Student interest in environmental education
10) Integration of environmental education into the school culture
11) Integration of environmental issues

Each of these barriers makes it difficult for teachers to integrate EE into the curriculum. Each barrier will be discussed in more detail in Chapter Two.

According to Burke (2000), “Culture is ‘the way we do things around here’ and concerns deeply held beliefs, attitudes, and values” (Burke, 2002, p. 13). If culture is the way things are done in an organization, in order to integrate EE at a school (a learning organization), the members of the school community must have positive attitudes and beliefs about teaching Environmental Education. The school itself must consider EE something that is important enough to be implemented at a school-wide level. In order to implement EE throughout a school, teachers may have to undergo a behavior change that changes their views on the importance of teaching EE. What are the characteristics of a school’s culture which promote or hinder EE integration?

**Theoretical Framework**

When attempting to change a group’s culture, the people in charge must find ways to change people’s views and beliefs. In order to change views and beliefs, you must start by changing behavior. Once people’s attitudes have changed, there can be behavior change (Burke, 2002).

Community-based Social Marketing is a behavior change theory developed by McKenzie-Mohr and Smith (1999). The idea behind community-based social marketing
is behavior change is most effectively achieved through initiatives delivered at the community level which focus on removing barriers to an activity while simultaneously enhancing the activity’s benefits (McKenzie-Mohr & Smith, 1999).

There are six components of Community-based Social Marketing that must be addressed when attempting to generate behavior change within an organization:

1. Commitment
2. Prompts
3. Norms
4. Communication
5. Incentives
6. Removal of external barriers

Each of these components will be discussed in more detail in Chapter 2.

**Community-Based Social Marketing and Environmental Education Integration**

In order to implement EE at the school wide level, it may be necessary to change the behavior of some members of the school community. If there are teachers or administrators who do not understand the importance of teaching EE, they may be resistant to its adoption within the school curriculum. Community-based Social Marketing can be used as a method for changing behavior and attitude of community members within a school. This behavior change can lead to integration of Environmental Education throughout the entire school. Community-based Social Marketing theory can be used to by schools to who are attempting EE. When a school commits to implementing
EE, uses prompts, communication, and incentives to remind people of their commitment, removes external barriers, and makes teaching EE a norm, EE becomes a part of the culture and the way things are done in a school.

**Trinity School in Atlanta, Georgia**

Trinity School is a private school in Atlanta, Georgia serving children age three-years-old though sixth grade. The school is located on 43 acres which includes seven acres of hiking trails, creeks, and outdoor classrooms. The school has put teaching and learning about the environment into its goals and mission. The school’s website says the following, “The mission of Trinity School’s Environmental Education program is to expand and deepen children’s understanding and appreciation of the natural environment, and to provide them with the skills to have a positive impact on the future of our planet.” This dedication to the environment has helped shaped the curriculum and has influenced the EE integration at the school.

**Purpose of the Study**

The purpose of this study was to understand what characteristics of Trinity School have influenced EE integration. A lot of research exists on barriers to teaching Environmental Education within schools, but there has been little examination of how culture can influence that integration. The specific objectives of this case study were to:

*Objective One:* Identify the aspects of Trinity School which influenced or hindered Environmental Education Integration.
**Objective Two:** Identify the resources provided by Trinity School which influenced Environmental Education Integration.

**Objective Three:** Identify incentives for integrating and teaching Environmental Education at Trinity School.

**Objective Four:** Identify barriers to integrating Environmental Education at Trinity School.

**Objective Five:** Describe the administration’s perspective on Environmental Education integration at Trinity School.

With these objectives in mind the researcher was attempting to understand how the components of Community-based Social Marketing can positively influence the culture and integration of EE within Trinity School.

**Definition of Terms**

*Culture:* “Culture is ‘the way we do things around here’ and concerns deeply held beliefs, attitudes, and values” (Burke, 2002, p. 13)

*Curriculum:* The courses, subjects, and topics, taught by an educational institution

*Environmental Education:* A process that enables people to acquire knowledge, skills, and positive environmental experiences in order to analyze issues, assess benefits and risks, and make informed decisions, and take responsible actions to achieve and sustain environmental quality (NAAEE, 1993)
**Enviroscape:** The outdoor spaces at Trinity School; includes Discovery Woods (seven acres of hiking trails, creeks, and outdoor classrooms, Discovery Playground (natural play-scape built with exploration in mind), school gardens, and outdoor classrooms

**Integration:** The inclusion of Environmental Education with subjects traditionally taught in schools (Math, English, Science, etc.); Environmental Education is not taught as a separate subject but included in with other subjects throughout the school day

**Study Limitations**

This study sought to explain the characteristics of Trinity School that make Environmental Education integration possible. This qualitative case study is unique to this school and the findings cannot be generalized to a larger population. Also, the participants were selected by the administration and their views and opinions may not be representative of all teachers at Trinity School. During the interview process, it was assumed that the participants provided honest and accurate answers. In addition, the researcher’s opinions and background could have influenced the way the data was interpreted in the study and this was documented through a researcher subjectivity statement presented in Chapter 3.
CHAPTER 2
REVIEW OF THE LITERATURE

Introduction

The researcher was interested in how the culture at Trinity School has influenced EE integration at the school. Trinity is working in a variety of different capacities to make integration of EE a seamless part of the school’s curriculum and culture. Their approach includes purposefully building and maintaining outdoor teaching spaces, offering trainings to the teachers on EE, creating task forces and parent groups who support EE, and insisting that teachers take their students outside the four walls of their classrooms.

What has made this program so successful? Review of past literature cites the barriers to teaching EE at schools but there is little research on what has been successful in the integration of EE. This chapter reviews past literature on barriers to teaching EE that have been found over the last 30 years. Eleven barriers were identified for pre-service and in-service teachers. Each of these barriers will be examined in depth. This chapter also introduces organizational change and gives an overview of the Community-based Social Marketing Theory and how it can be used to influence organizational behavior change in schools.
Barriers to Integrating Environmental Education

In a review of literature on pre-service and in-service teachers done by the researcher, eleven barriers to implementing EE were found. The review of literature spanned thirty years but many of the same barriers came up again and again for both pre-service and in-service teachers. These barriers include:

1. Available and Relevant EE Materials that can be Linked to the Curriculum
2. Available Natural Spaces or Natural Settings
3. Administrative Support
4. Teaching Time
5. Teachers Comfort and Confidence
6. Safety and Liability Issues
7. Funding for EE
8. Class Size
9. Student Interest
10. School Culture
11. Integration of Environmental Issues.

The more of these barriers a teacher faces, the less likely he or she will be successful in teaching and integrating EE. Table 2.1 shows each of these barriers and which authors have cited them. These barriers will be examined in more detail below.

Available and Relevant EE Materials

One barrier mentioned by teachers to implementing EE was a lack of available and relevant material (Benetti & Marcelo de Carvalho, 2002; Dyment, 2005; Ham &
Sewing, 1988; Hannah, 1992; Kim & Fortner, 2006; Lane et al., 1994; McKeown-Ice, 2000; Powers, 2004; Rickinson et al., 2004; Van Petegem et al., 2005). Having the right materials available to you can make or break the success of any educational program.

This barrier can exist in two forms. For some teachers a lack of materials is a problem. A study by Benetti (2002) found that there is a lack of resources such as videos and books available to teachers in schools. “About 50% of the school teachers mentioned the lack of resources, and some added that they could not afford to purchase the necessary resources themselves due to their low wages” (Benetti, 2002, p. 7). This lack of resources makes integrating EE difficult for teachers.

On the other hand, having too many choices can be a barrier. A teacher who is not familiar with EE may feel overwhelmed by the number of resources available to them online or at school. According to Hannah (1992) for some teachers, “the proliferation of books, texts, thesis, handouts, workbooks, and other written resources available which pertain to environmental and/or Outdoor Education we can see a big logjam; an undifferentiated, seemingly random jumble of materials” (Hannah, 1992, p. 80). Materials that are not organized can be difficult and time-consuming to navigate. It also has been suggested by Ham and Sewing (1988) that teachers prefer materials that are readily available and that can be used with little preparation. A number of EE materials can be adapted to different age groups and settings with time and energy, but because they are neither site nor age specific this takes time and energy. In addition, Kim and Fortner’s 2006 study found that external barriers, such as a lack of appropriate materials, are greater than internal barriers (Kim & Fortner, 2006).
Table 2.1  
Comparison of In-service and Pre-service Teacher Barriers to Implementing EE Curricula

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A = Available, relevant EE materials (to link with curriculum)  
B = Available natural space/natural setting  
C = Administrative support (including teacher mentors)  
D = Teaching time (including prep time and collaborative time)  
E = Teacher comfort and confidence (science background knowledge)  
F = Safety and liability issues  
G = Funding  
H = Class size  
I = Student interest  
J = School culture (integration into program)  
K = Integration of environmental issues

Available Natural Spaces or Settings

A lack of natural spaces and settings is also a barrier for many teachers (Dyment, 2005; Ernst, 2007; Ham & Sewing, 1988; Hannah, 1992; Kim & Fortner, 2006; Simmons, 1998). This barrier can be both a lack of a natural space or a poorly designed
space at a school. Many teachers do not feel that they have adequate natural spaces readily available to them at their schools. They may be in the city or feel that their school’s outdoor area is unsafe. For some teachers this may mean taking students on field trips in order to conduct EE activities. According to Ham and Sewing (1988) this “misconception limits teachers in their choice of activities and overlooks the classroom and school yard as sites for EE” (Ham and Sewing, 1988, p. 21). In her study, Janet Dyment (2005) found that teachers did not use poorly designed green spaces as often as spaces designed with learning in mind: “We need a space where students can sit down and teachers can actually teach a lesson” (Dyment, 2005, p.40). Many teachers also feel that they are inadequately prepared to teach in these settings, “They did not believe that they were particularly well trained to teach in natural areas” (Simmons, 1998, p.9). This lack of comfort and confidence will be examined in a later section.

**Administrative Support**

Without the support of administration, many teachers feel that they cannot take their classes outside (Benetti & Marcelo de Carvalho, 2002; Dyment, 2005; Ernst, 2007; Ham & Sewing, 1988; Hannah, 1992; McKeown-Ice, 2000; Powers, 2004; Rickinson et al., 2004; Van Petegem et al., 2005). For some administrations time spent doing activities and lessons outside may be viewed as a waste of time and resources. A study by Dyment (2005) found that teachers felt that “standardized testing has tended to reinforce this classroom-based orientation towards the curriculum. Schools appear to be placing increased emphasis on literacy and numeracy, with a view to ‘teaching to tests’. This often can leave little room for outdoor teaching” (Dyment, 2005, p. 38). This pressure to teach to the test, which is often felt from the administration, leaves many teachers feeling
that there is no room for EE in their school day. Administrative support is important in order for teachers to conduct any type of alternative activities in their classrooms. According to Ernst (2007) “logistical barriers to EE, such as lack of planning time, administrative support, transportation, and funding” all act as barriers to implementing EE (Ernst, 2007, p. 17). If principals or school districts do not place emphasis or importance on EE, it may be difficult for teachers to implement activities in their classrooms.

**Teaching Time**

The lack of support from the administration could be a result of testing pressure as well as a lack of time in the school day for activities that are viewed as superfluous (Benetti & Marcelo de Carvalho, 2002; Dyment, 2005; Ernst, 2007; Ham et al., 1988; Ham & Sewing, 1988; Hannah, 1992; Lane et al., 1994; Kim & Fortner, 2006; McKeown-Ice, 2000; Rickinson et al., 2004; Van Petegem et al., 2005). With an increased emphasis on testing and standardizing curriculum, teachers do not have much time for implementing EE activities. With no standardized testing covering EE, teachers may feel it is not as important as the other subjects taught in the classroom. According to Ham and Sewing (1988) a lack of time in the school day as well as a lack of preparation time was the greatest logistical barrier to teaching EE. “Due to public pressure to teach the basics and because numerous additions to the elementary curriculum, time has become a precious commodity to elementary teachers” (Ham and Sewing, 1988, p.20). One aspect of this time barrier is the amount of time is often takes to plan and implement EE activities. Teachers who already feel stretched during the school day may not feel they have the time to adequately prepare to take students outside. Hannah (1992) found
that many teachers “expresses frustration over the reality of their having to work overtime (after school and on weekends) to get an Outdoor and/or EE program going” (Hannah, 1992, p.4). Additionally, “EE is often perceived as a separate subject, thus competing for limited classroom time” (Ham et al, 1988, p.25). This perception often leads to a lack of EE instruction in the classroom. Ernst’s 2007 study found that a lack of planning time during the school days was one of the top five barriers to implementing EE. If teachers feel they do not have time to plan for EE activities, these activities may be overlooked during the school day.

**Teacher Comfort and Confidence**

A big barrier to teaching EE is a lack of comfort with the subject (Benetti & Marcelo de Carvalho, 2002; Dyment, 2005; Ernst, 2007; Ham et al., 1988; Ham & Sewing, 1988; Hannah, 1992; Heimlich et al., 2004; Kim & Fortner, 2006; Lane et al., 1994; McKeown-Ice, 2000; Moseley et. al, 2002; Powers, 2004; Simmons, 1998; Rickinson et al., 2004). This could be a lack of confidence with the natural area as mentioned above or a lack of comfort or confidence with the subject material itself. All of the papers reviewed for this literature review, with the exception of one, mentions lack of comfort and confidence as a barrier to teaching EE. Fortner and Corney suggest that, “lack of teacher’s content knowledge could explain why positive attitude is not accompanied by teaching of some environmental issues, such as toxic chemicals” (Fortner and Corney, 2002, as cited in Kim and Fortner, 2006, p.16). According to Benetti (2002) this lack of confidence is the result of little pre-service training as well as a lack of continuing education that addresses EE. For pre-service teachers EE was not a priority because of limited course time (McKeown-Ice, 2000). This lack of course time
meant that some students in pre-service teaching programs never take courses that deal with EE. This lack of training leads to a lack of comfort when it comes to actually implementing EE activities. McKeown-Ice (2000) also found that the scarcity of EE courses taught in pre-service programs was the result of professors and other college and university staff feeling a lack of confidence when it came to teaching about the environment. In Dyment’s 2008 study it was found that teachers “might find it difficult to even imagine teaching outside, if all of their own education and subsequent career in teaching has occurred in traditional indoor classrooms” (Dyment, 2008, p.37).

**Safety and Liability Issues**

Safety and liability issues are a concern for many teachers considering implementing EE in an outdoor setting (Benetti & Marcelo de Carvalho, 2002; Dyment, 2005; Ernst, 2007; Ham & Sewing, 1988; Hannah, 1992; Simmons, 1998; Rickinson et al., 2004). In a 2004 paper by Rickinson et al. it was found that safety and liability issues are the number one barrier to teaching EE. (As cited in Dyment, 2005, p. 29) The concern with allergies to bees, other insects, and seasonal pollen prevents many teachers from even trying to teach EE in outdoor settings. In addition to perceived physical threats, many teachers are worried about classroom management when teaching EE (Ernst, 2007). When teachers feel that they do not have their class under control, there may be concern about student safety. Simmon’s 1998 study also found that teachers were concerned about students “getting lost, the presence of poisonous plants, and the threat of animals” (Simmons, 1998, p.4). One interesting thing to note is that none of the papers on pre-service teachers mentioned safety and liability issues as a barrier. This could be
because pre-service teachers have little experience in the classroom and do not think about logistical barriers that may exist.

**Funding for EE**

A lack of funding for materials thought of as necessary for teaching EE is a barrier for teachers (Benetti & Marcelo de Carvalho, 2002; Ernst, 2007; Ham et al., 1988; Ham & Sewing, 1988; Hannah, 1992; McKeown-Ice, 2000). Ernst’s 2007 study found that lack of funding was the second biggest barrier to implementing EE behind the emphasis on state testing (Ernst, 2007). In addition, a study by Ham and Sewing (1988) found that teachers felt that field trips and purchasing EE materials are the two biggest areas that lack funding. The teachers in this study overlooked their own schoolyard as a place to conduct EE activities and felt that they were not implementing EE because there was not money to go on field trips. “Securing adequate equipment be it canoes or microscope, is often expensive and difficult for programs with a large number of students to outfit” (Hannah, 1992, p.6). If materials and equipment are not readily available and easy to use, some teachers may not implement EE.

**Class Size**

Class size can be a barrier for teachers who want to implement EE (Benetti & Marcelo de Carvalho, 2002; Ham et al., 1988; Ham & Sewing, 1988; Rickinson et al, 2004) Ham et al. report in their 1988 study that 60% of teachers felt that large class size is a barrier to implementing EE. Large class sizes can make management difficult as well as finding materials and equipment for all students to use during activities. For some teachers a lack of an assistant or additional adult support creates a barrier when class size
is large, as there may be a concern about safety issues (Benetti, 2002). For example, if a problem occurs outside, the teacher is left alone to deal with both the crisis and the rest of the class. In Ham and Sewing’s 1988 research it was noted that class size was an issue not only when the class was too large, but also when it was too small. The class size prevented teachers from leading certain types of activities because the group was too big for some games and in other cases the group was too small.

**Student interest**

A small number of studies mention a lack of student interest as a barrier (Benetti & Marcelo de Carvalho, 2002; Heimlich et al., 2004; Kim & Fortner, 2006; McKeown-Ice, 2000). These studies reported low student interest in the environment and the difficulty of integrating potentially controversial environmental, such as global warming, into the existing curriculum as barriers. Benetti’s 2002 research found that “the student indifference to the issue and to reading” was a barrier to teaching EE (Benetti, 2002, p. 8) Studies published prior to 2000 made no mention of student learning preferences or the inclusion of potentially controversial environmental issues as being barriers for in-service teachers.

**School Culture**

Studies published after 2004 began to report on the school culture as a barrier to EE integration (Dyment, 2005; Ernst, 2007; Heimlich et al., 2004; Powers, 2004; Van Petegem, 2004). Different from the administrative support barrier reported in earlier works, studies citing school culture as a barrier provided examples of schools where it was difficult to engage in innovative EE-related teaching (e.g., conducting hands-on
activities in the classroom) due to the “school climate.” The exact definition of “school climate” remains unknown. Dyment (2005) found that “unrest in the workplace” has made it difficult for teachers to engage in innovative teaching practices. Some of the teachers she interviewed felt that teaching outdoors was another “educational reform/fad” and did not want to spend the time learning how to implement this practice is it was also going to pass. Pre-service teacher studies reported barriers reflecting a hesitant culture in support of EE integration into the pre-service teacher preparation programs. In fact, culture was often the most difficult constraint (Heimlich et al., 2004; Van Petegem et al., 2005). As most teacher preparation programs are housed in university academic departments, cultural barriers were often politically related and were noted as such (Heimlich et al., 2004; Powers, 2004). For example, competing ideas among faculty on what should and should not be taught and pressure from special interest groups for inclusion in the pre-service curriculum created major barriers for EE integration (Powers, 2004).

Integration of Environmental Issues

The controversial nature of environmental issues can be a barrier to implementing EE (Benetti & Marcelo de Carvalho, 2002; Kim & Fortner, 2006; McKeown-Ice, 2000; Powers, 2004) Issues such as ozone depletion, climate change, and population growth are sometimes seen as taboo subjects and not recommended to teach to students (Kim & Fortner, 2006). This makes talking about environmental issues and ideas difficult for many teachers. Powers (2004) finds in her study that, “EE can be seen as one of many interests trying to making its way into the curriculum, both at the university level and in K-12 education…if EE is seen as ‘yet-another add-on’ subject, and, perhaps more
dauntingly, a vehicle for left-wing political agenda, there will be systematic hurdles to surmount” (Powers, 2004, p. 8). The politics of the subjects as well as the climate and politics at schools may prevent teachers from integrating certain environmental issues.

**Influence of Organizational Culture on Integrating Environmental Education**

In the simplest sense, schools are learning organizations and organizations are constantly changing. The majority of changes that occur are slow and unplanned (Burke, 2002). In most cases, the people who run organizations fail to make significant changes within the organization. In essence, “large-scale fundamental organization change that works is rare” (Burke, 2002, p.1). So what does it take to make organizational changes which are sustainable?

Deep changes within organizations like schools can be seen as “cultural changes” (Burke, 2002). “Culture is ‘the way we do things around here’ and concerns deeply held beliefs, attitudes, and values” (Burke, 2002, p. 13). When attempting to change a group’s culture, the people in charge must find ways to change people’s views and beliefs. In order to change views and beliefs, you must start by changing behavior. Once people’s attitudes have changed, there can be behavior change (Burke, 2002).

In order to create change within an organization, you must first “change its basic strategy and certain aspects of- if not most of- its mission statement…Change in mission and strategy means that the organization’s culture must be modified if success of the overall change effort is to be realized” (Burke, 2002, p. 13). If an organization, such as a school, wants to make a change, like integrating EE, they must begin by adding this change into their mission or strategic vision. By creating this new mission and vision, the
school is letting people know this is important to them and it is something they are going
to spend time and money on in order to make it successful. The culture of the school, “the
way we do things around here” will likely then change to help meet that mission and
vision.

Attempting to change culture can create resistance. Before an organization can
change the culture, they must change the behaviors of the people within the organization
(Burke, 2002). An attempt must be made to change people’s behaviors that will
“eventually lead to shifts in attitudes and beliefs and will subsequently affect values”
(Burke, 2002, p. 14). Helping to change behaviors will eventually “influence the culture
in the desired direction” (Burke, 2002, p. 14). These behavior changes can help influence
others within an organization and eventually lead to a change of the organizational
culture. In order to increase the likelihood of integrating EE into a school’s curriculum
(the behavior change) and influence the culture, administrators must change the attitudes
of the teachers in schools towards positive feelings on teaching EE.

One way of implementing organizational change is by allowing all members of
the organization to participate in the planning of the change. A 2010 study by Smith and
Torppa found that, “For personnel in all positions…the greater their participation in the
strategic planning process, the more receptive to the changes in the new strategic plans
they were, the less pessimistic about the plan’s likelihood of success they were and the
more motivated to make the plan a success they were” (Smith and Torppa, 2010, p. 6).
People are more likely to make changes and stick with them if they have a say in the
planning process. They feel more committed to the project and the change when they
have a personal relationship to it. When attempting to integrate EE at a school, the
adoption of new methods and curriculum will be more successful if the teachers have a say in how lessons and activities will be taught.

Another model for creating change emphasizes the use of leadership. If “the organization change is large scale and transformational in nature, requiring significant change in mission, strategy, and culture, then leadership must come from the top of the organization” (Burke, 2002, p. 16). This leadership from above can help guide people in the new changes and policies occurring within an organization. “It is the leader who articulates and brings together the external environment with the organizational mission, strategy, and culture and then provides a vision for the future: the destination, the change goal(s)” (Burke, 2002, p. 240).

According to Boone, Safrit, and Jones (2002), there are both formal and informal leaders. Formal leaders are, “individuals who publicly represent and make decisions for the group based upon formal or official recognition” (Boone, Safrit, & Jones, 2002, p. 279). In schools, formal leaders would be people within the administration. An informal leader is an individual who “influences the behavior of and make decisions for the group by virtue of members’ private recognition of that person as a leader” (Boone, Safrit, & Jones, 2002, p. 280). In a school this would be teachers who are admired and respected or teachers who serve on some kind of leadership committee that makes decisions for the school. It is important to indentify and utilize the power of these leaders when attempting behavior change within an organization. Because behavior change may be met with resistance, the “principle effect of interfacing with these leaders is to resolve, in advance, many of the potential problems that might arise” (Boone, Safrit, & Jones, 2002, p. 139).
In addition to using leaders to help create change, organizations should use data to help ensure success. This is called formative assessment. Formative assessment is a “continuous process of assessing decisions made and actions taken…the expected outcome is the collection, processing, and use of feedback to make needed changes or adjustments in decisions and actions” (Boone, Safrit, & Jones, 2002, p. 279). The data collected during the formative assessment will help an organization to “(a) track progress, (b) establish priorities for next steps, and (c) determine what to celebrate regarding milestones reached” (Burke, 2002, p. 16). The data acts as a guide to leaders within an organization helping them to choose what aspects of change are most important to determine if change is actually occurring.

**Community-based Social Marketing Theory**

One theory of organization behavior change is community-based social marketing (CBSM). The idea behind community-based social marketing is that behavior change is most effectively achieved through initiatives delivered at the community level which focus on removing barriers to an activity while simultaneously enhancing the activities benefits (McKenzie-Mohr & Smith, 1999). CBSM theory is a behavior change model traditionally applied to geographic communities (e.g., neighborhood recycling programs) to inform environmental campaigns with the goal of permanent behavior change. Six variables comprise the model, and when each of these components is present the likelihood of behavior change increases. The variables include: commitment, prompts, norms, communication, incentives, and the removal of external barriers. Before each of these actions can be put in place, barriers need to be identified.
Identifying Barriers

All sustainable activities contain specific barriers. These barriers can be very different from each other even when the sustainable activity or action seems similar to other activities or actions. (McKenzie-Mohr & Smith, 1999) Some barriers are internal to individuals, such as a lack of knowledge, while other barriers may be external, such as a lack of materials or spaces for teaching. In order to successfully create a change within an organization, barriers unique to that organization must be identified and then specifically addressed with actions.

Commitment

When people make a commitment to an action or behavior they are more likely to continue the action. There are a number of ways that commitment can be used to stimulate action. Written commitments tend to be more effective than verbal commitments (McKenzie-Mohr & Smith, 1999). If a person writes down a goal, they will be more likely to stick with it than when they simply discuss it or think about it themselves. People also stick with commitments longer if they are made in public or with a group (McKenzie-Mohr & Smith, 1999). If a person makes a commitment out loud in front of a group of people or with a group of people, they will be more likely to stick with it. People do not want to be seen as someone who goes back on their word and are more likely to stick with something if other’s know they a made a commitment. Group commitments work well because the members of the group can hold each other accountable for their actions.
Prompts

Even after making a commitment, sometimes people forget to follow through. Prompts are a way to remind people of the commitments they have made to change. “Prompts are visual or auditory aids which remind us to carry out an activity that we might otherwise forget” (McKenzie-Mohr & Smith, 1999, p. 155). These are a few things that must be kept in mind when creating prompts. The prompts must be noticeable to the intended audience, they should be self-explanatory, they should be located near where the action will take place, and they should encourage people to engage in positive behaviors (McKenzie-Mohr & Smith, 1999). If prompts follow these guidelines, then they should work as friendly reminders to keep participants on track with their commitments and changes.

Norms

Norms are important in all aspects of society because they “guide how we live” (McKenzie-Mohr & Smith, 1999, p. 156). Norms are unspoken rules that help guide people in their daily actions. If the goal is for a group or an organization to make a change, then that change needs to become the norm. McKenzie-Mohr and Smith (1999) suggest two ways to use norms in a way that helps to create change. The first is to make the norm visible. One way to do this is by publicizing the norm. By talking about the action and giving examples of people who are doing it, others are more likely to follow. The other way to use norms for change is to use personal contact to reinforce the norms. “Research suggests that internalization of norms is more likely to occur as a result of
personal contact” (McKenzie-Mohr & Smith, 1999, p. 156). This personal contact can come from the people in charge or peers within an organization working towards change.

**Communication**

When trying to foster a change it is important to communicate with the group who is making the changes. A number of factors should be considered when deciding what type of communication to use. The message you are trying to send should be intended for your audience and should use captivating information that gets the group excited. It should be framed in a way that makes the message easy to remember and helps participants to see the losses that occur as a result of inaction (McKenzie-Mohr & Smith, 1999). It is also important to carefully consider threatening or negative messages. “Whenever you contemplate using a negative message consider whether you can at the same time present concrete actions that individuals can take to reduce the threat” (McKenzie-Mohr and Smith, 1999, p. 157). Failure to do so can leave people feeling helpless and unmotivated to take action. It is also very important to provide opportunities for people to talk (McKenzie-Mohr & Smith, 1999). Group discussions can be motivating and inspirational and can help keep changes on track. Support from the group lets people know they are not alone and provides a place for people to ask questions, try out ideas, and vent about problems.

**Incentives**

Incentives are a great way to get people motivated to make a change. “They are particularly useful when motivation to engage in action is low, or if people are not doing the activity as effectively as they could” (McKenzie-Mohr & Smith, 1999, p. 158).
Having an incentive to make a change helps people who are not internally motivated. Some things need to be kept in mind when deciding what incentives to use. The incentive should pair closely with the behavior, it should reward positive behavior, and it should be visible. In addition, both monetary and non-monetary incentives, such as social approval, should be used (McKenzie-Mohr & Smith, 1999).

**Removing External Barriers**

In order for any change to occur, the barriers to making the change must be removed. Barriers must be indentified and a “plan for how you will overcome them” must be put into place (McKenzie-Mohr & Smith, 1999, p. 159). Without removal of the barriers, no change will occur.

**Rationale for Examining the Influence of Culture**

Knowledge alone is unlikely to create behavior change (Schultz, 2002). Some authors refer to the adoption of EE as involving the integration of EE curricula and existing course content with an emphasis on school-wide/organization-wide change (Van Petegem, Blieck, Imbrecht, & Van Hout, 2005). Some stress the need to reform the school culture into a collaborative, partnership-oriented atmosphere as a way to successfully implement EE at the interdisciplinary level (Fullan, 1994). Others emphasize that for adoption of EE within schools to stick, “re-culturing” is needed (Van Petegem et al., 2005). This “re-culturing” may be necessary as teachers have been found to revert back to teaching the same way they were originally taught when faced with a difficult teaching situation (Yilmaz-Tuzun, 2008). If change in any learning organization is to be sustainable, a consideration of culture is needed.
Regardless of subject matter, curricula are developed to be implemented, and implementation involves behavior change. As additional EE curricula are published and marketed to formal and non-formal educators, adopting such curricula will involve individual and organizational change. In order to make these changes, the culture of the school must be examined to determine which aspects have the strongest influence over adoption. The vision and the mission of the school must reflect the values that are important to the members of the school and leadership must help others reach goals and make changes that allow the mission to be reached.
CHAPTER 3

RESEARCH DESIGN AND METHODS

In order to understand how the teachers and administration at Trinity have successfully integrated EE (EE) into their curriculum, a qualitative study was conducted. Six interviews were held with teachers at Trinity and with one administrator to help the researcher understand the aspects of Trinity’s culture that contribute to their EE program success. Participants were asked about the barriers they face when teaching EE, resources the school provides to help them, and aspects of the school’s culture that they believe make the program successful.

This chapter discusses the methods used during this study. Justification for the study, researcher subjectivity, site selection, participant selection, data collection, and data analysis are included.

Research Question and Problem Statement

The purpose of this study was to determine what features of Trinity School’s culture make EE integration possible. A number of barriers to teaching EE in the classroom have been found. These barriers have been discussed in Chapter Two. The researcher was interested in understanding how Trinity has overcome those barriers and successfully made EE a part of the curriculum. Although research exists on the barriers to integrating EE into the curriculum, a lack of information exists concerning what makes
programs successful. The researcher approached this study as a model to share information about what structures need to be in place to make EE integration possible. This information can be used by other schools who want to begin the process of integrating EE into their daily curriculum.

**Justification**

A qualitative approach was used for this study because the researcher felt that conducting interviews and letting the teacher’s share their thoughts openly would result in a deeper understanding of the culture at Trinity. Culture is defined as the “‘way we do things around here’ and concerns deeply held beliefs, attitudes, and values” (Burke, p. 13, 2002). Qualitative research methods were used for this study because they allowed the researcher to build trust with the interviewees and other staff at Trinity School, ask probing questions, and form relationships with the participants. Quantitative research methods, such as a questionnaire with response options, would not have provided the detailed information sought in this study. Trinity School was selected as the research site for this study because of the school’s dedication to integrating EE into the curriculum and its potential to serve as a model to other schools.

**Researcher Subjectivity**

All qualitative research is partially influenced by the researcher’s background and experiences. It is important that a researcher understands and recognizes his or her subjectivity and that it is shared with the reader. According to Glesne (2006), “Subjectivity, once recognized, can be monitored for more trustworthy research and
subjectivity, in itself can contribute to research” (p. 119). The subjectivity of the researcher is detailed below:

I grew up in Atlanta, Georgia. Although I grew up in the city, I had the opportunity to spend a lot of time outdoors. There was a thirty-five-acre lake in the middle of my neighborhood that was easily accessed at the bottom of my street. I spent all of my free time at the lake collecting insects, playing games with my friends, fishing, and swimming. My love for the outdoors started at the lake and was developed over the years as I discovered more activities I could do outside.

I attended a small private high school that really catered to the interests and strengths of its students. I loved science and took as many science courses as the school offered. During my junior year, I took Advance Placement Environmental Science and really fell in love with the subject. I decided that when I went to college I wanted to study science and become an environmental scientist.

I attended the University of Georgia (UGA) for my undergraduate degree. After trying out a few majors, I decided to get a degree from the Odum School of Ecology. I loved the program and the diversity of classes that were offered. What I did not love was that most people in the program left school to become researchers. I wanted to use my science knowledge and background for something more practical and did not see myself spending my days in a lab collecting data.

During my junior year of college, I went to Sarasota, Florida, and worked in the education department at Mote Marine Laboratory. This was my first experience with EE and I absolutely loved it. I felt like I had found a way to combine my interest in the
outdoors, children, and science into one job. I came back to UGA to finish my degree but knew that when I graduated I wanted to work in the EE field.

After my college graduation I worked at a number of EE facilities. My experiences ranged from a residential science school in Idaho to a 4-H center in the North Georgia Mountains to a small zoo in Athens, Georgia. Each of the experiences has given me different perspectives on the field of EE and its importance in the lives of children. I have come to realize that very few children are exposed to EE at school. This realization sparked an interest in me that prompted pursuing this study and asking the question, “What are the barriers to integrating EE in the classroom?”

My experiences playing outside and teaching children about nature have shaped my feelings towards EE. I believe that every child has the right to experience the outdoors in one fashion or the other. This experience could be spending afternoons playing in their backyard, taking a class at a nature center, going for a hike in a local state park, or having time at school to participate in outdoor activities. I believe it is the job of schools and teachers to provide some of these opportunities to their students. Spending time at school making nature journals or planting a garden will allow children to make connections to their place. These connections will stay with them as they grow up and help make them sensitive to environmental issues that we, as a society, face.

While the researcher did attempt to remain objective during the data collection process, the experiences the researcher has had could have affected the probing questions asked during the interviews. Other measures, which will be discussed later in the chapter,
helped to provide an accurate representation of the participant’s experiences and thoughts.

**Qualitative Measures of Validity and Reliability**

A number of strategies were employed to insure validity and reliability of the study. According to Ary, Jacobs, and Razavieh (2002), “Validity on qualitative research concerns the accuracy or truthfulness of the findings. The term most frequently used by qualitative researchers to refer to this is credibility” (p. 451). One way the researcher ensured credibility is through peer review. The researcher’s peers, fellow graduate students, looked at the data and analysis and determined if the researcher’s interpretation was accurate. The reviewers helped decide if there was a problem in the interpretation or if additional data needed to be collected. Member checks were also conducted with the participants. After the interviews were transcribed verbatim, the transcripts were sent back to the participants to make sure everything was accurate. The participants had the opportunity to clear up any miscommunications at that time (Ary, Jacobs, & Razavieh, 2002). Lastly, reflexivity was employed by the researcher to strengthen credibility. “**Reflexivity** is the use of self-reflection to recognize one’s own biases and to actively seek them out” (Ary, Jacobs, & Razavieh, p. 454, 2002).

In qualitative research, reliability is referred to as **dependability**. Dependability is “…the extent to which variation can be tracked or explained” (Ary, Jacobs, & Razavieh, p.455). The researcher strengthened the dependability of the study by using an audit trail. Notes on the participants, site selection, and methods of data collection, tape recordings, and field notes were reviewed by the researcher’s graduate committee. This
helped to determine if the study could be replicated. In addition, the researcher used the code-recode strategy. All of the data was analyzed and coded and then left for a period of time. It was then visited later and recoded for comparison (Ary, Jacobs, & Razavieh, 2002).

The questions for the interview guide were written after examining what past research has found about barriers to teaching EE. These barriers have been detailed in Chapter 2. The researcher was interested in determining how Trinity has overcome barriers to teaching EE in elementary schools. As Maykut and Morehouse (1994) suggest, the questions “are open-ended and designed to reveal what is important about the phenomenon under study” (as cited in Ary, Jacobs, & Razavieh, p. 434, 2002). The interview guide can be found in Appendix A.

**Site Selection**

The researcher chose Trinity School as the data collection site because of the school’s push for integration of EE into their daily curriculum. The school has put teaching and learning about the environment into its goals and mission. The school’s website says the following, “The mission of Trinity School’s EE program is to expand and deepen children’s understanding and appreciation of the natural environment, and to provide them with the skills to have a positive impact on the future of our planet.” The school has a number of programs and activities dedicated to EE. In addition to its focus on teaching EE, the school website says, “We believe in actively participating in environmental stewardship for students, Trinity undertakes projects that develop appropriate sustainable practices as an institution.”
The following programs are listed on the schools’ website as a part of its EE Curriculum (http://www.trinityatl.org/academics/environmental.aspx):

- Evaluating and reducing Trinity’s impact on the environment;
- Active exploration and discovery in the outdoors (using our Enviroscape, Discovery Woods, Discover Playground, and Discovery Gardens);
- Incorporating EE as a curricular focus;
- Outdoor Education trips;
- Determining and reducing our environmental footprint (energy audits, lights, paint, pesticides, etc.);
- School-wide recycling and composting;
- Student-led environmental stewardship campaigns such as the 5th grade “Watt Watchers” to reduce the use of electricity; and
- Professional learning opportunities for faculty.

**Participant Selection**

Participants for this study were purposefully selected by the administration at Trinity School. According to Guba and Lincoln (1981), “Sampling is almost never representative or random but purposive, intended to exploit competing views as fresh perspectives and fully as possible” (As cited in Ary, Jacobs, & Razavieh, p. 438, 2002).

A total of six teachers and one member of the administration were interviewed for this study. The participants were chosen based on their current level of integration of EE into their classroom teaching. Three of the participants were strong proponents of the EE curriculum and integrate EE into their daily classroom activities. Three of the participants were more resistant to the program and integrated EE less frequently; these participants did not integrate EE into their curriculum as easily. The administration at Trinity determined who fit this criterion. Patton (2002) describes this as maximum variation
sampling because the participants cut across a range of variation in their interest in EE (Patton, 2002 as cited in Glesne, 2006).

The purpose of interviewing these two types of teachers was to determine if teachers who facilitated less EE programs did so because they had not found ways to overcome the barriers to teaching EE or for other reasons. The researcher wanted to know if personal views about the environment might have influenced what the teachers chose to teach in their classrooms. The researcher also wanted to know how the school culture potentially influenced the frequency with which the teachers were implementing EE activities in their classrooms.

After the participants were identified by the Trinity administration they were contacted through email to explain the purpose of the study and to ask for their voluntary participation. A description of the interview methods and the list of questions were also included in the introductory email. Interview times were arranged by Trinity after the identified participants agreed to be part of the study using email and phone. The letter explaining the purpose of the study and asking for participation can be found in Appendix B.

**Description of Participants**

A total of seven people were interviewed for this study. Six of the participants were teachers at Trinity School and one participant was an administrator at the school. Four of the participants were interviewed on Monday, September 20, 2010, and the other three were interviewed on Wednesday, September 22, 2010. Descriptions of the participants can be found below in the order in which they were interviewed.
“Mary” has been a fifth grade teacher at Trinity School for fifteen years. She started out at Trinity as a Kindergarten teacher before she moved to fourth grade for a few years and then finally to fifth grade. She has been at the school for 23 years and has seen many changes in the curriculum and administration. As a fifth grade teacher “Mary” only teaches social studies and language arts. Her students go out of the classroom each day for specials, math, and science. She views the subjects as differentiated and does not feel that there is much of an overlap between what students do in her class and what they do in the other classes they attend. In fifth grade the students go on two overnight EE field trips. “Mary” loves these trips and they are a highlight of the year.

“Cheryl” has been at Trinity School for 4 years. She is a science lead teacher and is responsible for teaching all of the fifth grade science, as well as the third grade lab. The fifth grade students come to her class each day for science. “Cheryl” is head of the River Kids program, in which all fifth graders at the school participate. The third grade classes come to her once a rotation (every six days) as a supplement to the science they are doing in their homeroom classes. This lab class is meant to be hands-on and exciting for the students. Before coming to Trinity “Cheryl” worked at a public school in south DeKalb County. Prior to that she was a non-formal educator at Zoo Atlanta. Because of her background she has a lot of interest in animals and the outdoors. Her classroom is set up like a lab, with benches and science equipment throughout the room. In addition to her teaching duties, “Cheryl” is on the Enviroscape Task Force Committee and teaches Faculty Forums (continuing education) on the Enviroscape.

“Lacy” is a first grade teacher at Trinity. She has been at the school for eight years and has had a variety of positions. Prior to teaching in the first grade she was on the
learning team for a few years and also taught second grade for a few years. The learning team is a group of teachers who offer extra support to struggling students. Before coming to Trinity, “Lacy” worked as a public school teacher for nine years. “Lacy” and her co-teacher are responsible for teaching all subjects to their students. In addition to the science they do in the classroom, her students attend a science lab once a rotation (every six days). This lab supplements what the students are doing in their classes. “Lacy” and her class spend a lot of time outside exploring and playing, but there are very few environmental lessons that are intentionally taught outside.

“Hannah” is the science lead teacher for the early learning department (3 years old through first grade) at Trinity School. She also works with the second grade students at the school. She has been at the school for four years. Each class comes to her once a rotation (once every six days). She collaborates with the teachers in each grade, and her class consists of mostly hands-on actives and lessons that coincide with the science curriculum. “Hannah” does not have a teaching background and this is her first teaching job at a school. Her background is in biology and psychology and she worked in the medical field prior to coming to Trinity. She has experience leading backpacking trips and loves the outdoors. In addition to her teaching duties, she serves on the Enviroscpe Task Force and teaches Faculty Forums (continuing education) on the Enviroscpe. She is happy to lend a hand to teachers who are having a difficult time figuring out ways to take their students outside.

“Ashley” is a fourth grade lead teacher at Trinity School. She started teaching fourth grade in Virginia at a public school and then moved to Washington D.C. to work at an independent international school. After the school closed she moved to Atlanta to
work at Trinity and has been there for four years. In fourth grade she is responsible for teaching all subjects to her students. In addition to the science they do in her room, her students go to science lab twice a rotation (every six days). “Ashley” takes her students out for various activities in all subjects but feels that the students get easily distracted outside. She also feels that going outside often takes more time than doing an activity in her room. She has an assistant teacher for half of the day, and she feels more comfortable doing outside activities when the assistant can be there as well.

‘Dr. Amy” is the Associate Head of School at Trinity. She is the only member of the administration that was interviewed for the study. She has a background in elementary education and special education. She is certified to teach pre-Kindergarten through 12th grade in a variety of subjects. She has a PhD in Education, Leadership, and Policy Studies and has worked in both public and private school settings all over the country. Her experiences range from inner-city to rural communities. She has been at Trinity for three years. In addition to her daily duties she serves on the faculty/staff Enviroscape Leadership team. She describes herself as an avid environmentalist and says she loves all things outdoors. She has been a huge component of the push for EE integration at the school.

‘Missy” has been at Trinity School for 17 years. She taught third grade for eight years, was the head of the lower school for six years, and then worked as EE Coordinator for the whole school for two years. When that job was cut she began working as a first grade teacher. She has been in first grade for two years. When she worked as the EE Coordinator, her job was to coordinate various classes and subjects with environmental activities and lessons. “Missy” helped form partnerships between the school and various
members of the community who worked in the environmental field. She also started some of the EE programs at the school like composting and gardening. Her classroom is filled with natural objects. There are baskets of acorns and pinecones and other things found out in nature. She also has a class guinea pig which the students study during the year. Previously “Missy” served on the Enviroscape Task Force, but she rotated off this year.

Data Collection

The first step in the data collection process was to create an interview guide that could be used while interviewing the participants. The questions focused on identifying how the school culture at Trinity has helped or hindered the EE program at the school. The questions were open-ended, based on the initial literature review, and gave participants the opportunity to express their feelings about what works and what does not work in regards to the EE program. After the initial interview guide had been written and reviewed by the researchers committee it was sent to the University of Georgia Institutional Review Board (IRB).

For the study, six interviews were conducted with teachers and one interview with an administrator at Trinity School during September 2010. The interviews lasted between 20-45 minutes and were audio recorded for later verbatim transcription. The interview questions gave the researcher the opportunity to learn about how teachers at Trinity integrate EE into their classrooms. The researcher used the interview guide as the basis of the interview but used further probing questions to help expand ideas and themes and to clarify thoughts in each interview.
The researcher made an effort to develop a rapport with the participants. Before the interviews an email was sent by the Trinity Administration asking the participants if they would like to participate in the study. This initial email gave participants an understanding of the study and some background on the researcher. The researcher also took time during the interview to introduce herself and give some background on her interest in EE at schools. Before the start of each interview the researcher went over the consent form with each of the participants and explained the process. Any questions the participants had were answered at this time. The consent form can be found in Appendix D. Each of the interviews was held in the teacher’s classroom to provide a comfortable environment.

**Data Analysis**

After the interviews were transcribed verbatim, the researcher used domain analysis (Spradley, 1980) to analyze all of the interviews. Open coding was done first to help summarize each interview and determine each participant’s thoughts on the culture at Trinity. The open codes were then merged and used to help identify the main domains from each interview. These themes were color coded and the researcher compared the themes from the seven participants. Key domains were identified and interpreted. After the initial domains were identified the researcher used member checking to help strengthen validity.
CHAPTER 4
RESULTS

The purpose of this study was to identify the aspects of Trinity School’s culture that make EE (EE) integration possible. After interviewing six teachers from Trinity School and one administrator, domains (themes) emerged about what aspects of the culture make EE integration possible. These themes were used to help understand each of the objectives of this study.

This chapter presents the domains that emerged after all of the interviews were transcribed and analyzed. The domains are presented in order of the frequency of their occurrence in the raw data. The domains are grouped by how they relate to each of the research objectives of the study.

**Research Objective One**

To identify the aspects of Trinity School which have influenced EE integration.

A total of eight domains emerged from the data regarding aspects of the school which have influenced or hindered EE integration.

**Support**

When asked what aspects of Trinity School have influenced EE, all of the teachers mentioned the support systems in place within the school. Support within the school comes from three sources: (1) administrative support to integrate EE, (2) teacher
support with developing lesson plans and ideas, and (3) support from the parents to take
kids outside.

**Administration**

Four of the teachers interviewed mentioned that support from the administration
has influenced the EE integration at Trinity. “Hannah,” the Early Learning Department’s
science teacher said:

> It’s support basically from all different sides. Having, I mean kind of coming from
the top down had been a huge thing. I mean me as a person, I have my own
beliefs and you know where I see that as such an important aspect of a child’s
kind of well rounded education but having your administration at the school
support you in that is really huge. They, like you know I was saying I feel like
this, you know we talk about this a lot at Trinity but the fact that this is a learning
community um, that you know we are all always kind of forward thinking looking
into the best practices, newest research. You know what is going to be the best
for our students? And the fact that our administration is acknowledging the need
for EE at such a young age, exposing kids to the outdoors, seeing that as a
classroom in itself um, I mean you know it encourages other teachers to kind of
jump on that train, and whether or not they are comfortable with it them self.
So having that support and you know this is our resource here and this is an
important aspect of our education please you know incorporate that into your
work. And so you know that is huge. (“Hannah”)

“Hannah” recognized how important having administrative support is in the success of
integrating EE into the classroom. Without this support from the top EE would not be at
the forefront of the school’s mission. Even teachers who were identified as being more
resistant to teaching EE acknowledged the high level of administrative support. For
instance, “Lacy,” a first grade teacher who was identified as being resistant to teaching
EE, mentioned:

> I feel like the people who are now in charge at school, like our new coordinator at
school, well she is not new anymore she has been here for three years, our new
assistant, like I think that they are all very interested in the environment and
because of that I think there is more of a push now than maybe five years ago when there was different administration. So I definitely think that because it is a priority to them and an interest for them that it is becoming more of a push here… (“Lacy”)

The interest among the administrative staff at the school has led to a support of EE within the school. Teachers who are using the outdoors and integrating the environment are recognized for their efforts:

I know that personally I feel appreciative, that they are appreciating what I am doing... I do feel that they appreciate and acknowledge what I’m doing and what the science department is doing and what the Enviroscape task force is doing and I think that they know who is really using it and who’s not but there is not actual reward, that I know of. If so I have not received one. Except for a good job, we love what you’re doing, that kind of thing. (“Cheryl”)

“Cheryl,” the third and fifth grade science teacher, acknowledged that the efforts she is making to integrate EE are being recognized. Although the staff is not being monetarily rewarded for integrating EE, the teachers do feel that their efforts are recognized. This recognition helps to keep up the motivation and expectation to teach EE.

**Teachers**

Another aspect of support that the teachers mentioned is colleague support. The school has a number of “cheerleaders” who help to spread the word about the importance of EE and to help teachers come up with lessons plans they can use with their classes. These “cheerleaders” do everything from speaking individually with teachers about specific lessons, to going outside with classes, to sending out a monthly newsletter called the “Enviroscoop” that gives teachers ideas about lessons that can be implemented during the season or month.
“Mary,” a fifth grade lead teacher, talked in her interview about how having other people give her ideas helped her to do more in her classroom:

Well, it would take having people who have the determination and drive you know. I think for many of us just in the classroom if we didn’t have someone come along and say well we’re going to have this contest and this is what’s going to happen. And we’re really excited about this recycling program and let’s reuse paper on the other side when you have one side blank. And just people who will come along and say, do you know you can do this? You can put paper back through the copier and you can um use these things for various, you know you can recycle materials if you are thinking cleverly about how to do it. (“Mary”)

The ideas from school “cheerleaders” have helped her to recognize easy ways to integrate EE in her classroom. This kind of support comes from peers who understand the challenges of a busy school day and who can make realistic suggestions. “Hannah” discussed ways that the science teachers have helped other, more resistant or less experienced teachers integrate EE:

We had a group of you know teachers from different grade levels and we were, each week, or each kind of meeting we had, we’d ask you know to think about different areas of the curriculum and what are some ways you could potentially, you know how could you potentially purge a topic appropriate in nature or appropriate in the outdoors or where is physical space you could go to do some sort of activity. (“Hannah”)

Meeting with other teachers in a type of “support group” environment gives teachers who are unsure about teaching EE strategies and lesson plans they can use with the topics they are teaching their students. It also provides teachers with an outlet to vent, without the presence of administrators, difficulties they may have experienced when teaching EE-subject matter.
Parents

The last support structure within the school is parental support. “Hannah” talked in her interview about how many of the parents have expressed an interest in EE and the outdoors:

But you know I have definitely had more and more, I have had parents coming in and telling me about the things they have done in the summers with their kids or the kids come in and tell me about some of the outdoor activities they have done on the weekends. I mean I think we all like to think that it had a lot to do with us and our school. Again I think we are very lucky in the fact that we have parents that are already pretty supportive. (“Hannah”)

This parental support is not just in the form of encouragement. Many parents at the school volunteer their time at Trinity:

The benches, they helped in the design of that. And clearing some areas down in Discovery Woods, we have our stumps. There are circles of stumps and areas and spaces for outdoor use. So I mean you have support of parents which is great. Another example that would be, with our little kids, um threes through first grade, they are asked to bring in rain boots at the beginning of the year. And each child has their own set and they can leave them in their cubbies and you know the parents you know kind of have to, for that age bracket they’re supplying that for their child. If it’s a raining day and we want to go out and explore then they can do it. If they want to get in the creek and they are doing a water study or a creek study or something, it helps us to do it that way too. Um, so I guess support of the administration and support of our parents. (“Hannah”)

Without parents’ encouragement and support, it seems that the EE programs at Trinity would not be possible.

Freedom in Curriculum and Exploration

Five of the teachers interviewed mentioned the freedom within the curriculum that allows for exploration and creativity. This freedom allows teachers to take their
students outside and to try new things. It also gives them flexibility in their school day to pursue the interests of their students. Although they are required to meet certain standards, they are encouraged to help nurture those interests. “Lacy” summed up the feeling of freedom at the school well:

I think as a school we really try to teach based on the interest of the kids. It is like we teach our curriculum but we really try to tie things into their interests. (“Lacy”)

By teaching to the students’ interests the teachers have freedom to explore new lessons and activities. “Lacy” goes on to say:

Down here now it is very much a let them be kids, let them explore, that’s how kids learn. So yeah, I think there is definitely more of a push for that because that is part of what kids enjoy doing. I think that she would definitely say yes, that she would want us to do that. However, one of the great things about this school is that they really give us the liberty to teach the way we think our kids need. What they need in the classroom and how we are as teachers. And I think that they know, I think they are OK with whatever we do. (“Lacy”)

Trinity is a private school and this helps in the freedom given to the teachers. Unlike public schools that are constantly teaching to certain state standards and tests, students at Trinity are not required to take those tests:

I said that because um, our open curriculum, yeah. And we have creative teachers and we don’t have to teach to state standards… So that helps a ton because um, and then you know I think we are actually, there is this big push for curriculum mapping and kind of looking and part of the fact that we are a learning community and like looking, kind of continuously looking at our curriculum. Well is this important and why? (“Hannah”)

This constant thinking about what is best for children and their learning gives teachers the opportunity to bring new ideas into their daily teaching. If a teacher wants to let students explore something, they have that chance.
“Missy,” a first grade teacher who previously worked as the EE teacher at Trinity, discussed her students’ interest in the class guinea pig and how that interest led to other topics:

Well and of course we have Brownie (the class guinea pig) so kids are really interested in him. And that can take you off if you are into a regio focus, it can take you off into animal rights. And then you get into human rights and then into children’s rights. So the kids could easily spend the year on designing a house for Brownie. (“Missy”)

Student interests are nurtured and encouraged in her classroom, and this leads to deeper learning about bigger issues and topics. In this case, a natural topic such as an animal is used as an interest approach and a spring-board for generating discussion about local, national, and global environmentally-related issues.

**Collaboration Among Teachers**

Four teachers mentioned the collaboration at the school as a characteristic that influenced EE integration. Collaboration among teachers is another form of support within the school. One form of collaboration at the school is between lead teachers and science teachers. In the lower school (three-year-olds to first grade) the lead teachers are responsible for teaching science in their classrooms. Their students go to see “Hannah” in the science lab once a rotation (every six days). “Hannah” talks about the purpose of the visits to the science lab:

…so the idea is that um, that whatever my, their visit to me is kind of a more hands-on extension and kind of themes that are going on in their rooms, science units that are in their room. (“Hannah”)
“Hannah” and the other teachers get together every few weeks and discuss what the students are currently learning. She then supplements what the students are doing in their rooms with experiments and activities.

Teachers at Trinity also collaborate within their own classrooms. The younger grades (three-year-olds to first grade) all have two teachers and an assistant, so the teachers have the opportunity to teach to their strengths and help each other in areas where they do not have as much experience or knowledge:

Because even if you aren’t a teacher who wants to be outside most of the people here, I think all of them, appreciate that the kids still need to be outside, whether you like it or not. And in the younger kids and really everywhere, we usually have a team, an assistant and a lead and so if the lead can’t stand it the assistant will do it or vice versa. So they have worked it out pretty well. (“Cheryl”)

Even teachers who are not comfortable taking students outside can successfully implement EE in their classrooms with the help of colleagues. These pairings are carefully thought out by the administration and will be discussed in a later section. This collaboration makes the integration of EE more successful on a school wide level.

**Research-based Mentality**

The push to begin implementing and integrating EE at Trinity has been the result of research praising the benefits of getting children outside. The Head of School, Stephen Kennedy, and other members of the administration are up to date on education research and implement new ideas and programs at the school that they feel will benefit the students:

Um, I think that what started this movement was a lot of research about kids needing to be outside. And you would think it would be common knowledge,
everyone would realize that but it’s really not. People in um, education had really moved to being inside and doing their activities, everything inside. And so when all of this research started coming out, if you take them outside the ADHD rates go down all of that really got Stephen Kennedy, our head of school, it got his interest peaked. It also got our investors’ interest peaked and um when you have all of that to support it and you have this great land then um, I think that’s what kind of started the motion. (“Cheryl”)

Research supporting the importance and benefits of teaching EE has influenced the way the school approaches their curriculum. Teachers at Trinity recognize the importance of getting kids outside not just for learning:

So we do a run around outside. And of course all the brain research indicates that that’s just great. We also have a lot of squirrely, particularly boys in first grade. And so we do the run-arounds and then we pick up our snack and go over to this outside area and have snack next to the garden. I mean how wonderful is that? (“Missy”)

Although this is not time spent instructing students, research indicated that it is beneficial to their health and well-being. The students have the opportunity to get energy out and spend time exploring the outdoors. This exploration can lead to teaching when student’s interests are piqued.

Integrated Curriculum

The last characteristic of Trinity School that makes EE integration possible is the integrated curriculum. EE is not viewed as one more thing the teachers have to fit in during the day. “Cheryl” discussed the school’s view on integration during her interview:

You know we don’t have um, in our curriculum we don’t have an environmental, specifically element, EE element. It’s just incorporated into everything else… Because we don’t want to separate since we are trying to integrate it all then we don’t want to separate it back out. That’s what I would, and I mean we all easily integrate it into our science curriculum and we’re trying to integrate it to everything else so it might not even need an official separate something. But we need to look at that. And make sure that those important environmental issues are
really put, cause some teachers will say, you know we have a lot to cover and that we’re responsible for. (“Cheryl”)

The integration of teaching about the environment while teaching other subjects saves time during a very busy day. Teachers do not feel that they have to stop math to teach EE. They can take their kids outside during math time and look for patterns or make graphs using natural materials. Doing these kinds of activities exposes kids to the environment while covering necessary components of the curriculum.

“Mary”, a teacher who was identified as being resistant to EE by the administration, tells a story about activities she does in her classroom:

It is a great way to get the kids out into the field and do testing on water and really have an understanding of what um, environmental impact has on our water, our water systems. One year in particular we did something kind of neat, we went, I can’t remember where we went, um it was somewhere up 400, a water treatment plant or there was a stream nearby that we tested the water there that was above the city and then the water down here, below the city to compare the same water. Yes, where it’s been through and it was interesting to kind of make those tests and come to some conclusions about what’s happening with the water. (“Mary”)

This type of activity gets students outside while teaching them about science, math, and the community. Students have the opportunity to use science equipment to make predictions about the world around them.

**Research Objective Two**

To identify the resources provided at Trinity School which have influenced EE integration.
A total of three domains emerged from the interview question on resources which Trinity provides to teachers for conducting EE activities. They are presented below in the frequency with which they occurred in the raw data.

**Enviroscope**

Every teacher interviewed mentioned the Enviroscape (the physical spaces and property) at the school as a resource that has helped influence EE integration. Trinity School is set on 43 acres. Seven of the acres have been converted to trails and outdoor classrooms and are called Discovery Woods. The playground at the school is called Discovery Playground and includes many natural elements and play areas. There are garden plots available for each grade level, as well as many outdoor areas designed for teaching and learning, such as an amphitheater and council rings with stumps for students to sit on.

“Hannah” describes the Enviroscape as:

Technically it encompasses, like really we think of it as any learning area that’s not necessarily within four walls. So that could be Discovery Woods, that could be Discovery Playground, that could be you know using, looking at our different um aquarium, kind of as a teaching tool. Using the amphitheater, the outdoor space there, using our gardening plots, using, kind of it’s the philosophy of incorporating the environment into our curriculum. (“Hannah”)

These spaces were designed with teaching in mind and are easily used by teachers and students. “Mary” describes a space she and her students use often:

There is a nice space now that they’ve got outside, where there is a circle, that’s shaded. That’s really nice. The amphitheater has been great but it’s so hot out there. Unless you are hitting it in the late fall or early spring, it’s lovely then. But this area that they have out at the end of the sixth grade wing is shaded and it’s nice, we go out there just to read. When we are doing literature um, I have gone out for grammar lessons where we are looking at um adjectives, just looking
around and listing all the adjectives they can see and that sort of thing. I mean there are lots of things that can be done outside. And we have spaces to do it which is really nice. (“Mary”)

Spaces that provide shade and seats are helpful to teachers who may be more hesitant to take students outside. When the spaces are designed with these thoughts in mind they seem to be used more often than spaces that are out in the open or near an area, such as a playground, that can cause distractions and introduce safety hazards. The intentional uses of the space at Trinity leave little room for excuses not to take students outdoors.

**Equipment**

Another resource that Trinity provides to the teachers is equipment to teach EE activities. The school has many resources already and is open to purchasing new things the teachers may need. “Hannah” talked about those resources and the way they are obtained during her interview:

> I would say it’s for me, you know we have things like binoculars, and in general our science equipment and gardening supplies…It is kind of here for all of us to use. We have indoor growth lights, we’ve got you know um, and ways if there are things that we want or need, and looking for the funds for that, or you know helping grant writing… (“Hannah”)

These resources are available for all teachers to use. This prevents teachers from declaring that a lack of equipment is a barrier to teaching EE.

Another resource that is provided to the teachers is backpacks with ready to use supplies:

> The Enviroscape committee, the teacher committee, it is a goal, we are going to make backpacks that have like the first aid stuff in it. If you are doing butterfly catching, we are going to have a butterfly backpack that has all the stuff ready to go. A lot of people are concerned, a lot of teachers, rightfully so, maybe too much
but still um, about bugs and allergic reactions and things like that. So if we have a boo boo bag that they can grab.  (“Cheryl”)

This type of resource is helpful for teachers who are unsure about what to do with students outside. They can grab one of these backpacks and all of the equipment is ready for them to do some type of outside activity. Teachers do not have to spend time getting materials together before heading out. First aid kits and other supplies are organized and ready to go. As with Community-based Social Marketing, this is a removal of an external barrier.

**Professional Development**

Professional development, both in-house and from outside, is required of all of the teachers at Trinity. Outside professional development has included the EE Alliance of Georgia conference and the Monarchs Across Georgia trip to Mexico. The school provides a number of Faculty Forums, professional development trainings, on a number of different subjects, including the Enviroscape. In addition to the in-house trainings, teachers are encouraged to go to conferences and other classes and trainings on subjects that they are interested in. The school pays for these opportunities and helps find substitute teachers if the teachers will be out on a school day.

In addition to the professional development that is offered, the Enviroscape committee is going through the curriculum and finding ways to link current topics with EE activities:

We are going through the curriculum and providing ideas for each part of the curriculum and having a long list that we are attaching to our curriculum guide that’s online so that when people pull up their curriculum guide and it says, Native Americans in second grade they do Native Americans, that there will be a link to outdoor activities that you can do with um, Cherokee. So that again it’s a r
resource if they are drawing a blank… we want them to realize that they can take the curriculum outside and incorporate the environmental elements into it ("Cheryl")

This resource can be accessed by all of the teachers in the school. If they have questions they can ask the Eniroscape committee for help. Often these same activities and lessons are also taught during the Faculty Forums that the teachers are required to participate in.

**Research Objective Three**

To identify incentives for integrating and teaching EE at Trinity School.

Only one domain was identified as an incentive for teaching EE.

**The Importance of Teaching EE**

Although teachers are not being monetarily rewarded for integrating EE, the school does attempt to recognize teachers who are doing a good job. Teachers are thanked by the administration, and the activities and lessons they teach are used as examples for other teachers.

Even though the teachers are not being rewarded monetarily for teaching EE, there are personal incentives to getting students out of the traditional classroom. Four of the six teachers interviewed discussed how integrating EE is beneficial for both the students and teachers. Each of the teachers had different reasons for believing that EE is important. For “Hannah” integrating EE is another way to enrich student’s education:

I think it is just enrichment of the children’s experience, and health. I mean you know it is something, and promotion of um, stewardship of the earth which is part of our mission statement here at the school. I mean this is the age bracket to really kind of build that awareness and interest and respect for the environment. You know and if you can help them do that now it is going to help later on. But I think
it provides another element of their education. Something that you know, we are kind of focused a lot on thinking in terms of how is this going to benefit each individual student? Well there are some students that are very inclined to explore outside and nature and you know having that avenue open to them is important. (“Hannah”)

For “Hannah” having the freedom to let kids explore that natural curiosity is important.

The students are exposed to the environment and begin to have an understanding and care for the natural world around them. “Missy” mentioned similar reasons for wanting to expose kids to EE. She said in her interview:

And so you need to, obviously we want them to make that connection with the outdoors so they will care for it. And thinking about them being voters and so on…I think when people really love something they are going to spend time with it. (“Missy”)

“Missy” sees teaching EE to students as a way to get them to care about and understand the environment. These students will eventually become voting adult citizens in our society and if they have made a connection with the environment at a young age they will be more likely to care for it as adults.

“Cheryl” feels that integrating EE is important for both students and teachers:

I think that an appreciation for our resources is so important not only for our students, to raise them to be aware that we need to take care of what we’ve got, but also for the teachers who were not raised in this environmentally aware time. So some environmental knowledge for everybody. And then I think it’s for your state of mind. For my personal state of mind, for my students state of mind, for my colleagues state of mind, I think if you get outside it changes your, I know what it does for me, even if it’s hot and sweaty and ucky, it just kind of centers me. (“Cheryl”)

“Cheryl” believes that getting outside the classroom is important for everyone’s state of mind. It gives students and teachers a broader perspective of their place in the world.
Even the teachers who were identified as being resistant to teaching EE felt that it is important for students to be environmentally aware. “Mary” discussed how some kids have taken on the environment as their cause:

I just think it’s become such an important aspect of everyday life. I think with all the articles and all of the news reports and things about our environment its come to the forefront so much that I think kids are quite aware of it and they know it’s important. Some of them have really almost taken it on as a cause. There quite passionate about it… it just, it’s important to keep that as a reminder, and talk to the kids about waste and you know do you need to use this kind of paper for this or can you used recycled paper and just, were constantly bringing up ways that they can be more aware. (“Mary”)

This awareness is important to students who consider the environment their cause as well as to the teachers who teach them. This awareness can lead to better environmental choices for students, teachers, and the school as a whole. As with any EE intervention, this moves learners along a continuum from awareness to action (NAAEE, Guidelines for Excellence).

**Research Objective Four**

To identify barriers to integrating EE at Trinity School.

Six domains emerged from the interviews on barriers to teaching EE.

**Comfort**

The barrier mentioned most often to integrating EE was comfort with the subject and with taking students outside. In her interview, “Lacy,” a teacher who was identified
as being resistant to teaching EE, said that for her not knowing what to teach was the biggest barrier:

I would say not knowing myself what is it I would teach and what is important. How would I teach it? What’s appropriate for a first grader? (“Lacy”)

As shared in Chapter 2, this is a common feeling for teachers who have little experience teaching outdoors or about science-related topics in general. They often feel that they do not know how to get started or what kinds of lessons are appropriate for their age students. For some teachers simply being outside is out of their comfort zone. “Missy” discussed some of the things teachers are uncomfortable with:

They don’t like to be outside and there not comfortable digging in the dirt and they don’t like, their concerned about wasps and bees and you know and so on. People have different comfort levels with different things. (“Missy”)

Taking students outside can be a huge challenge for teachers who do not enjoy spending time outside. They may be nervous, uncomfortable, and worried about what could happen to their students while outside. “Cheryl” discussed some of the barriers she has seen to integrating EE among the teachers at Trinity:

I think that it’s not a teacher’s comfort zone. I think that is the biggest obstacle here. That it’s just too much trouble, it’s something new, they will be hot a smelly when they come in. Um, they, there are too many bugs. You know it just something that there not used to. That to me is the biggest. I don’t think it’s the subject. We have had, how am I supposed to teach math when I am out there? But we have constantly tried to provide ways and education about how you can do that. And so that argument has kind of gone away but it’s more like, well, there to distracted out there. Um if a kid gets scratched it will take their focus away, if there are too maybe other people out there they will be distracted. It’s just, I think bottom line is it comes down to a teacher’s um, comfort zone and maybe just doesn’t, it seems like more trouble than it’s worth… (“Cheryl”)
When teachers feel that it is more trouble than it is worth it becomes easy to make excuses not to go outside. For some teachers the barriers outweigh the benefits and taking students outside gets put on the back burner.

*Lack of Time*

Previous literature on EE has identified time as a barrier (See Chapter 2, Table 2.1). This study also identified time as a factor contributing to a lack of EE integration for some teachers at Trinity. For “Lacy” a lack of time was a barrier to integrating EE. “Lacy” was identified as a teacher who is resistant to integrating EE. In addition to being uncomfortable with teaching, she felt that the continuing education classes that were offered to help her were at inconvenient times:

The problem with some of the continuing education is that a lot of it is offered after school and I have two, I have a two year old and four year old, and I have to leave after school. Like, it is just not an option for me to stay. So, like I said I don’t think they have ever offered anything like that, I am sure they would, absolutely I mean it probably has been offered but it is just not an option for me to stay. I mean it is a choice that I make to do the best I can here and to do the best I can at home which means I leave after school… If they provide the training at an appropriate time, you know not after school, and not in the summer, then yeah. The problem honestly is that when you have a family, and the training can only be offered so often, and it’s usually either in the summer or after school. So, for me it is kind of like that battle of you know, it is not the right time for me. (“Lacy”)

Finding the balance between home and school has been difficult for “Lacy” and has been one of the barriers to teaching EE. Because she is uncomfortable with the subject matter she does not integrate EE into her daily classroom routine. Although she expresses an interest in learning more she does not feel that she is currently in a position to attend
continuing education on the subject. According to Community-based Social Marketing theory, this is an external barrier that could be removed to encourage integration.

*Lack of Interest*

“Lacy” also discussed her lack of interest in EE. For many people it is difficult to teach about something that they have little interest in. She said:

Honestly I think, and I don’t know if this is accurate or not, but I really think there are some people who are very interested in that and there are those who aren’t. And it is not that I don’t care about the environment, because I really do, it is just not a passion of mine. It is not something I want to read about and that I want to, you know I am not interested in having a garden. Like I love to be outside but I like to be laying on a beach, not in the woods. So, you know we take the kids in the woods because we know that’s where we know they like to be and we go on hikes but it’s you know if something I do because I know the kids like it, not because I like it. (“Lacy”)

Although “Lacy” recognizes the importance of taking the students outside, she finds it difficult to do a lot of teaching about the environment. In her class they spend time playing outdoors and walking on the trails but very little instruction goes on out of the classroom. This is a result of her lack of interest in the environment.

“Cheryl” also discussed a lack of teacher interest in EE:

But they were at, and I think this again, is what goes back to what their interested in, it’s kind of my thing not their thing but they were asked to attend, I did one of the those Faculty Forums on River Kids and they were asked to attend and they didn’t come... they were strongly encouraged to come and they didn’t come. They should have, they should I think show more interest in it. (“Cheryl”)

Although “Cheryl” offered a Faculty Forum on the River Kids program to the fifth grade teachers none of them attended. It was very obvious during her interview how
disappointed she was. Although she is responsible for teaching fifth grade science at Trinity, she said she felt the other teachers should have an understanding of what their students were doing with her during science time. Their lack of enthusiasm and participation in her program is frustrating for her. If teaching EE was more of a norm for all members of the staff, they fifth grade teachers may have been more interested in attending her program.

**Politics**

“Missy” felt that politics was the biggest barrier to teaching EE:

I think the biggest thing, and I get this as far as administration and from other people, is the political, the political part of that. Some people not thinking that there’s not global warming and um, it takes on, I find that surprising. It seems pretty obvious to me that everybody would be for recycling, you know that sort of thing. But a lot for people really um, think that that has more of a radical, and of course if you go to other countries or other parts of the country it’s just, it’s like brushing your teeth. (“Missy”)

Although “Missy” was the only person that spoke of politics in her interview, this was a barrier that has been found in past research. This can be seen in Table 2.1. Many teachers are nervous to teach subjects that could be considered taboo such as global warming. They may be nervous that there will be resistance from parents or administration if there topics are discussed during the school day.

**Dangers and Safety Concerns**

For some teachers taking students outside seems dangerous. There are a number of plants and animals that could potentially hurt children or make them sick. “Hannah”
works with the youngest children in the school. She discussed some of the concerns associated with taking them outside during her interview:

One thing that I think especially with our age group of child here at this school is um, I mean really for any child, young ones especially it is just allergies, bees and things…That is a consideration, especially with small children. And high instances of asthma you know different pollen seasons that can be a thing…so it is a consideration. Obviously we you know have protocol for if you do take groups out you need to make sure that you have a cell phone and you have to let the reception desk know. Make sure that is there is anyone in your class that does have anaphylaxes response to bring the epi pens and all that kind of stuff. (“Hannah”)

Although the school has put guidelines in place to address these concerns many teachers are still uncomfortable. They may not feel good about taking students down the Discovery Woods trail if they have a student in their class who might have an allergic reaction to something outside.

**Kids Being Distracted**

The last barrier mentioned to integrating EE is that kids are often distracted when outside. This barrier was mentioned by “Ashley,” a fourth grade lead teacher at Trinity, and it was something she kept coming back to during her interview. She said when we were discussing barriers:

Um, do I take my class and just sit outside? Not usually because it is to distractible with people coming in and out of the building where most of the stuff is and then to get down to Discovery Woods, it’s great for when we teach the forests and talk about experiments in science and wondering through but just to go down there and sit and have a class the time is takes to make sure all of the kids have gone to the bathroom and to walk down there takes away from instruction time and I already feel very pressed for time anyway. So I don’t use it as much as I would like … (“Ashley”)
“Ashley” feels that when she takes her class outside they are easily distracted. It also takes more time for her to do activities outside. As a fourth grade lead teacher at the school she is responsible for teaching all of the subjects. This makes her day very full and doing time consuming activities is not always an option. In addition to feeling that kids get distracted outdoors she also feels that managing them outside is more difficult:

I don’t always have an extra person to help me with management, with classroom management. In 4th grade we share assistants and so with the schedule the way it is if I have this sudden urge to want to go outside if I don’t have my assistant if definitely sometime hinders my decision to do so because again with 20 kids outside trying to classroom manage, it makes it really difficult. (“Ashley”)

This lack of help, the rate at which students get distracted, and the time it takes to plan and implement outdoor activities all prevent “Ashley” from integrating EE on a regular basis. “Ashley” has no formal training on teaching outdoors and may benefit from a class that teaches techniques on teaching outside the classroom.

**Research Objective Five**

To describe the administrations perspective on EE integration at Trinity School.

This objective includes seven domains. They are presented here by the frequency with which they occurred in the raw data. Although some of the domains overlap with the domains identified in the teacher interviews, they are being presented separately because the researcher felt the administration may have a different understanding of the EE teaching and learning at Trinity School.
**Decision to Make EE Important**

During the course of this study one of the members of the administration at Trinity School was interviewed. “Dr. Amy” is the Associate Head of School. She came to Trinity three years ago and her interest in the environment and EE has influenced the integration within the curriculum at the school. She was asked the same questions during her interview as the teachers but answered from an administrative vantage point instead of a teacher’s point of view.

In her opinion the most important aspect of EE integration at the school has been the decision to make it important. In her interview she discussed ways the school has made EE important:

As a school and community we say this is important, we value it, we are going to put some dollars behind it, and we want you to do it. So I think that, certainly starting at the very top, and being clear about this within the community, that this is important, doesn’t hurt. It really kind of sets a focus and an expectation and when we interview potential new faculty members that’s always part of the interview process, is how comfortable are you with EE? Are you OK taking kids outside? Which I think again sets a tone of this is something we expect you to do here. I think along that in pre-planning from the administration, from the very beginning of school we say to teachers, this is what we expect, we expect you to be outside with kids. We don’t expect you to be in 4 walls of a classroom, close the door and not go outside. (“Dr. Amy”)

The administration at Trinity feels that EE is important and they make it known that they expect their staff to be teaching it during the school day. In addition to discussing the importance of EE and making it known that it is an expectation, the administration has written about it in the schools strategic vision:

2008 was when the last vision was kind of published with a lot of input from all different constituent groups. The environment was a huge part of that, it is where
we coined the term Enviroscape, which is bridging the environment and education and bringing them together. The school has always done outdoor education and had components that have supported EE. But I think with our last vision, really pulling it together in a cohesive way, has been a little bit more of a focus, and making the grounds more user friendly for teachers to use instructionally. (‘Dr. Amy’)

The current strategic vision of the school has an environmental component that is purposeful in its goal to make integrating EE expectation throughout the whole school. The teachers know it is important to the administration and it is something that they are expected to do.

In addition to the strategic vision within a school it is important for teachers to feel supported. If the administration is going to make EE important, they must help their teachers integrate it:

You have to have leadership that supports it, and in a very obvious and out in front way. Teachers can’t feel like they’re on their own…You need to have somebody, at least one person that is designated as your go to person for both supports, questions, if they’re challenges that teachers feel like there is someone that they can come to that will help them make this happen. And I think if a school is going to have this be successful, you need teachers who are point people for different things. Like our organic gardening, every grade level has a point person for that. But ultimately it needs to roll up to somebody who has, like I sent you that Wiki and we have 40 different things that are linked into EE, someone’s kind of got to corral all of that and be able to make sense of it. And then support groups like the parent group; I think any school can have a parent group that could support it. But you need someone who is going to help kind of orchestrate. (‘Dr. Amy’)

Although the administration is a key component of creating a sustainable EE program, it is important to have support systems throughout the school. Different teachers can be in charge of certain aspects of the program and parents can help with some things. As with
organizational change theory, it takes a whole school, and not just one person, to make this type of program successful.

**Help with EE/Trainings**

The administration at Trinity recognizes that not all teachers are comfortable integrating EE. Because it is a goal of the school that teachers are teaching EE, the administration has developed different resources to help the teachers with integration. A lot of this support comes in the form of the Faculty Forums that are taught by teachers and administrators:

We also offer Faculty Forums, which is our in-house professional development as a structure to teach people what to do outside. And we have different teachers, myself included, that teach in an hour session some very hands-on, this is what you can do. I taught a pollination one, just as an example. And that had activities that aligned with the curriculum. Even if you don’t know anything about pollination, here are some things you can do… as well as skilling up teachers that might feel a little bit, I don’t know much about that. (“Dr. Amy”)

The purpose of the Faculty Forums is to help teachers who may be struggling to identify activities that they can easily do in their classrooms. The sessions are taught on school grounds using equipment that is readily available to the teachers. In addition to the in-house trainings, teachers at Trinity are encouraged to attend conferences, and classes to help their teaching.

Another support structure within the school is the “Enviroscoop”, the monthly newsletter published by the teachers and administrators on EE:

We started something last year called a Firefly Flash that has been changed to Enviroscoop is the current name…the teachers are sending it out to all the other teachers, look what’s happening outside, this is season you can find this
caterpillar or we have tree asps on this tree… But to let people know, here is what’s outside now that you can take your kids, here’s some information about it. As well as in those Firefly Flashes or Enviroscoop’s there talking about here is what you can do outside. Its fall right now, here are great fall activities that align with the curriculum. And I think that’s a huge help because its teachers talking to other teachers about what we’re doing. (“Dr. Amy”)

This kind of information is meant to give teachers ideas as well as start discussions about ways to integrate EE at the school. This type of communication is good because all of the teachers have access to it whether or not they attend one of the continuing education sessions on the environment. This communication also acts as a prompt to remind teachers of the importance and expectation of getting their students outside.

**Permission to Go Outside and Be Creative**

Another important aspect that “Dr. Amy” felt has influenced the EE integration is that the administration gives the teachers at Trinity permission to go outside and to be creative. During the teacher interviews many of the teachers discussed the freedom that the administration gives them to teach to the students interests. It was very interesting to hear this same theme reflected from a member of the administration. In her interview she discussed what it means to give permission for students to be outside:

I think for administration to really give teachers permission to be outside and to be clear about, when we say being outside this is what it looks like and feels like, this is what it means to us. Kind of like that frame work of what that means, whether it means you take a kid out and read a book and that’s being outside or you’re really integrating the curriculum, in not just science but all of the content areas into outdoor education. I think there is a lot that administration can do, and that permission to teachers to say, it’s OK to be outside of your classroom, I think that’s a big piece. (“Dr. Amy”)
This permission to be outside is what gives so many teachers the feeling of freedom in the classroom. The teachers seemed to appreciate that freedom and use it to teach to their student’s interest.

In addition to giving the teachers the freedom to be outside, the administration gives teachers permission to dress appropriately for outdoor activities. Teachers at Trinity are expected to dress professionally on normal school days. Although that is the norm, the administration has told teachers to come prepared to do outdoor activities. This might mean having sneakers under their desks or wearing jeans on a day they will be doing a creek study:

And then of course the attire, saying to people, if you’re going outside it’s OK to have rain boots at school, it’s Ok to wear sneakers. It’s OK if you’re crawling around in the grass doing a field study to wear jeans to school. I think that’s an administrative decision and it has to be clearly communicated and backed up. When you see people doing that you’ve got to reinforce that in a positive way. (“Dr. Amy”)

The administration makes this decision known to the teachers and supports their choice to go outside.

**Collaboration**

As the teachers mentioned, collaboration is an important aspect at Trinity that supports EE integration. One aspect of this collaborative effort is a faculty-staff leadership team:

We have a faculty, staff leadership team that is purely focused on the Enviroscape and that is comprised of faculty members, and I sit on that, as well as staff members are invited to be a part of that. Which really its focus is to help teachers with environmental education. (“Dr. Amy”)
The goal of this team is to come up with easy ways for other teachers to successfully use the Enviroscapes. In addition to coming up with lessons they talk to teachers and try to figure out what barriers are preventing teachers from using the outdoor spaces. One result of this type of discussion is the backpacks that are now available for teachers to use when taking their students outside. In addition to the teams of people at the school who are working towards the use of the spaces there is collaboration among the teachers:

And we have also started again through the Enviroscapes task force looking at how do we partner teachers up? We do have teachers who are terrified of going outside, so if you are terrified of going outside, but you know the school is saying you have to take your kids outside, who is a partner that can help you with that? Whether it means having a conversation about what to do, or actually having someone who will go with you. We did last year, part of pre-planning to help support teachers; we did Enviroscapes walks by grade levels. And talked about different places in the environment and how that ties into the curriculum and how they can use it. (“Dr. Amy)

Although this was not mentioned by any of the teachers, this is something the administration is working on implementing at the school. It helps the teachers who are more resistant to teaching outdoors find ways to give those students experiences with the natural world. It also gives them an opportunity to see that sometimes it is easier than they think to integrate EE.

In addition to collaboration among employees at Trinity there are community partnerships that are supporting the EE program. There are key people (stakeholders) within the greater community who are leaders in EE and who Trinity utilizes for help:

We’ve got some phenomenal partnerships with, like Jerry Hightower who is a National Park Ranger; he is our best friend here. He was here just the other day helping us talk about reclaiming the meadow. But harnessing community
resources. Karen Garland, at the Georgia Conservancy, is another good friend of Trinity, who is here both training teachers and working with kids. I mean Jerry and Karen both will train teachers but they’ll work with kids and teachers, so teachers say I could do this, I see how this works. (“Dr. Amy”)

These types of partnerships expose both teachers and students to new ideas and ways of thinking. These trainings are also another example of the help the school is providing to teachers who feel unsure about how to implement EE activities. Continuous stakeholder involvement is a characteristic of successful and sustainable educational programs (Boone, Safrit, and Jones, 2002).

EnviroScape and Resources

Like all of the teachers, “Dr. Amy” mentions the facility at Trinity. This space was designed for teachers and students to use and explore:

I think another characteristic is, I mean we are so fortunate to have 43 acres here, that we have space that is safe, that is designed for children, that has everything ranging from environmentally focused play spaces for recess, to trails that are marked and relatively well kept, with creeks and trees and shade and sun, and all of those features that you can go out and explore and see different flora and fauna right here in our back yard. Which certainly makes it so much easier; we don’t have to travel anywhere…We have been building for the past two years outdoor classrooms, whether their council rings or more formal seating areas, there outside for instructional use and we are deliberate about making them designed in a circle. Or in some sort of round so it’s not just pews that are more sage on a stage type thing. I think having the physical space and structures to say to teachers, here is a place you can take kids. You know here is an outdoor classroom down by the creek, you can use it…There are a lot of structures that we have tried to deliberately put in place to make the people who are excited and love it even more excited and love it, and the people who are terrified and who don’t want to set foot outside, come along also. (“Dr. Amy)
What is so unique about the spaces at Trinity are that they were designed with specific uses in mind. The forest and the trails are great for hiking, the play ground provides opportunities for students to discover new things, and the outdoor classrooms are designed to be used in effective ways. All of the spaces together make up the Enviroscape and give teachers choices when deciding what to do outside.

**Integration with Existing Curriculum**

Resources, such as the Faculty Forums, equipment, and outdoor spaces were discussed in previous sections. In addition to these resources the administration is working to help teachers understand that teaching EE can be fit into the current school day:

There are the realities of the school day. And helping people see it as not one more thing, but it’s part of how the day can flow. That it’s not drop everything and go outside but its look at your schedule and what you’re teaching kids, and there are natural connections that make sense to do that outside. If you are teaching about properties of water, it might make a whole lot of sense to go down by the creek and look at the water, bring some ice down there; you know do different things that the environment just lends itself. You know if you’re looking at patterns in math, why not take a walk and look for patterns in nature. I mean what a great connection. So helping people think about not, I have got to plan something completely different from what I am trying to teach but how is that connected and how can we use the environment to support the teaching and learning. (‘Dr. Amy’)

The goal of many of the continuing education classes and meetings about the Enviroscape are to help teachers understand what the administration means when they say they want to integrate EE into the curriculum. It is not meant to be one more thing jammed into a busy day but an extension to the themes and topics that are currently being taught in the classroom.

**Incentives**
The last characteristic that ‘Dr. Amy” discussed during her interview that has helped EE integration is incentives for teaching. Community-based Social Marketing tells us that incentives can motivate people to engage in an activity. Like the teachers she acknowledges that these incentives are not monetary. The incentives come in the form of praise and recognition:

And as administrators we also try to communicate when we see people doing these things, whether it’s taking pictures or actually saying to the teachers I am so glad you are there, it’s great to see that. (“Dr. Amy”)

The administration praises the teachers who are actively integrating EE into their school day. They recognize their efforts and use them as example. They also evaluate teachers on how they are integrating the outdoor spaces:

So part of that ties into performance evaluation. You know if you’re not tying, tying in what we expect you to do and doing it, then that’s a conversation with your supervisor.

Teachers at the school are expected to be teaching EE and if they’re not that is something that is discussed with their administrator. This kind of consequence is motivation for many teachers to make a bigger effort to get their students out of the classroom. It may not, however, help improve their intrinsic/ self motivation toward doing this if administration did not require it.
CHAPTER 5
CONCLUSIONS, DISCUSSION, AND RECOMMENDATIONS

Purpose and Objectives of the Study

The purpose of this qualitative study was to determine the aspects of Trinity School’s culture which make EE integration possible. Past research has identified barriers that inhibit the integration of EE at the school level. The researcher wanted to examine the characteristics of the school culture which make this integration possible. Specific objectives of this study included:

**Objective One:** To identify the aspects of Trinity School which have influenced or hindered EE integration.

**Objective Two:** To identify the resources provided by Trinity School which have influenced EE integration.

**Objective Three:** To identify incentives for integrating and teaching EE at Trinity School.

**Objective Four:** To identify barriers to integrating EE at Trinity School.

**Objective Five:** To describe the administration’s perspective on EE integration at Trinity School.

This chapter will present key findings and discuss the implications for practitioners and for future research.
Review of Methods

This study was conducted using qualitative research methods. To carry out the study, participants were purposefully selected by administration at Trinity School based on their current level of EE integration. Six teachers were chosen; three who have integrated EE into their classrooms and three who were identified as being more resistant to EE. In addition to the teachers, one administrator was interviewed who has been a key player in the adoption of EE throughout the school. Each of the teachers and the administrator participated in an interview lasting between 20-45 minutes in length to share their thoughts and feelings about EE integration at the school. The topics of the interview included characteristics of the school that allow for EE integration, resources provided by the school, incentives for teaching EE, and barriers to integrating EE. This method was chosen because the researcher felt they would have a greater understanding of the culture of Trinity by speaking with teachers and administrators at the school. During the interviews, the researcher attempted to develop a relationship with the participants in order to truly understand their feelings and thoughts on the EE curriculum and level of integration within the school. The participant’s responses were transcribed verbatim and then analyzed using domain analysis (Spradley, 1980). Each interview was analyzed and domains which emerged were extracted from the transcription. Once each interview had been analyzed, the researcher merged the domains and identified the main themes across each of the interviews. Member-checking was used and the transcriptions and the themes that emerged were sent to each teacher for review. At this time the teachers were able to add any thoughts or ideas to their interviews. The transcriptions and
domains were also reviewed by other graduate students and professors as a measure of credibility.

**Summary of Findings**

Results from the data were presented in Chapter 4. After each interview was individually read and domains were extracted, all of the interviews were compared and the domains were merged. After the merger 22 themes came out of the seven interviews. The 22 domains found across all of the interviews that influence EE integration at Trinity School, presented in order of dominance in the raw data, are:

1. Support from Teachers, Administration, Parents
2. Freedom in the Curriculum for Exploration
3. Collaboration Among the Teachers
4. Research-based Mentality
5. Integrated Curriculum
6. Enviroscape
7. Monetary Resources
8. Professional Development
9. Importance of Teaching about the Environment
10. Comfort
11. Lack of Time
12. Lack of Interest
13. Politics
14. Dangers and Safety Concerns
15. Kids Being Distracted
16. Decision to Make EE Important
17. Help with EE/Trainings
18. Permission to Go Outside and Be Creative
19. Collaboration
20. Property and Resources
21. Integration with the Curriculum
22. Incentives

The domains relevant to the characteristics of the school that allowed for EE integration were support from teachers, parents, and administration, freedom in the curriculum for exploration, collaboration among the teachers at the school, research-based mentality at the school, and an integrated curriculum. Each of these themes were characteristics identified by teachers as things that the school is doing to help with the integration of EE at Trinity.

The themes relevant to the resources available at the school were the Enviroscape, monetary resources, and equipment available to the teachers. These resources are helped teachers to implement EE in their classrooms. The types of activities and lessons conducted by the teacher’s at Trinity were a reflection of the spaces and resources available to the teachers.

The category relevant to incentives was the feeling that teaching EE is important and that the teachers believe in it. Although there were not monetary incentives for
teaching EE, many of the teachers interviewed felt that it was an important aspect of the student’s education.

The categories significant to the barriers associated with integrating EE included lack of comfort with the subject, lack of time, lack of interest, politics, dangers and safety concerns, and the worry that kids will be distracted outside. These barriers were identified by teachers as reasons why integrating EE is difficult.

The themes related to the administrator’s view on EE included the decisions to make EE important, help provided to teach EE including trainings, permission to go outside and to be creative, collaboration, property and resources, integration with the curriculum, and incentives. Although some of these themes overlap, they were categorized separately because a member of the administration mentioned them and not a teacher. The researcher felt the administrative view was different than the teacher’s feelings on EE integration. In addition, previous research has identified administration as having a key influence on EE integration.

Each of these domains influences the EE program at Trinity School. Some of these help with the integration and some are barriers to teaching EE in the classroom.

**Key Findings and Implications**

*Characteristics Influencing the Integration of EE*

The teachers at Trinity identified a number of characteristics that have influenced the EE integration at the school. Past research identifies a lack of administrative support as a barrier to teaching EE. Dyment’s 2005 study found that, “Schools appear to be
placing increased emphasis on literacy and numeracy, with a view to ‘teaching to tests’. This often can leave little room for outdoor teaching” (Dyment, 2005, p. 38). At Trinity, there is emphasis placed on outdoor teaching and learning. Support from the administration, as well as other teachers and parents, is a characteristic that has influenced integration. Hannah (1992) suggested that any barrier can be overcome with “a support system including other teachers, students, and parents. If they all lift together, there isn’t much they can’t move” (Hannah, 1992, pg. 3).

According to Community-based Social Marketing Theory, norms are important when creating behavior change within an organization. The support systems within the school can be seen as contributing to a norm. “Norms guide how we should behave” (McKenzie-Mohr & Smith, 1999, p. 156). If supporting EE comes from all sides, than teaching EE becomes a norm and an expectation for teachers at Trinity.

In addition, having a place to discuss activities and lessons influences the integration of EE. A study by Benetti (2002) found that some teachers felt there is a lack of places for teachers to communicate ideas with one another, declaring “Several complained of the lack of courses and of opportunities to exchange ideas with colleagues, etc. They believe that such educational elements would contribute toward overall improvement of the way they develop their work, particularly in regard to the environmental theme” (Benetti, 2002, p.5). At Trinity, collaboration among the teachers is common practice. It is standard practice for teachers to meet and discuss lesson plans and units. These meetings are a form of communication, another aspect of Community-based Social Marketing, which have become a norm within the school. These meetings
give teachers an opportunity to bounce ideas off of each other as well as a space to vent frustrations and concerns.

Freedom within the curriculum is another characteristic identified by teachers as a characteristic that helps support EE integration. Although this was not identified by the teachers as an incentive for teaching EE, this freedom is appealing for many of the teachers. Having flexibility and choice in your school day may be motivation for some teachers to teach EE activities.

**Resources Provided That Influence EE**

In the literature review, a lack of resources was identified as a barrier to integrating EE. This lack of resources was identified as a lack of relevant materials (Benetti & Marcelo de Carvalho, 2002; Dyment, 2005; Ham & Sewing, 1988; Hannah, 1992; Kim & Fortner, 2006; Lane et al., 1994; McKeown-Ice, 2000; Powers, 2004; Rickinson et al., 2004; Van Petegem et al., 2005;) as well as a lack of available and usable outdoor spaces (Dyment, 2005; Ernst, 2007; Ham & Sewing, 1988; Hannah, 1992; Kim & Fortner, 2006; Simmons, 1998). At Trinity there, is an abundance of resources, both in terms of spaces and available equipment. The teachers at the school acknowledged these resources and gave examples of how the equipment and spaces available to them have influenced the integration of EE in their classrooms.

The Enviroscape was the most frequent resource cited by the teachers. Pictures of the Enviroscape can be found in Appendix E. This space was purposefully constructed to create usable outdoor spaces for hiking, exploring, and teaching. The care that was taken in creating this space allows for easy use of it by teachers and students. Taking students
outside takes time and preparation. For many teachers, taking kids outside means going off campus, so issues of transportation, funding, and safety arise (Simmons, 1998). At Trinity, outdoor spaces are readily available and created for teaching and learning. Teachers do not have the added worry and hassle of planning a trip outdoors. They can decide that day if they want to take students out for a lesson or activity. This is a way Trinity has addressed an external barrier that may prevent teachers from teaching EE. According to Community-based Social Marketing theory, removing external barriers enhances the likelihood of behavior change (McKenzie-Mohr & Smith, 1999).

Another resource readily available to teachers at Trinity is equipment and money to buy new equipment. Past research has found a lack of materials and equipment to be a barrier to teaching EE (Benetti & Marcelo de Carvalho, 2002; Dyment, 2005; Ham & Sewing, 1988; Hannah, 1992; Kim & Fortner, 2006; Lane et al., 1994; McKeown-Ice, 2000; Powers, 2004; Rickinson et al., 2004; Van Petegem et al., 2005). At Trinity, teachers feel they can ask for “whatever they need.” They are given budgets and have equipment that is shared among all of the teachers. Trinity is a private school, and therefore has access to more than other schools, but the communal resources, such as binoculars and backpacks with first aid supplies and outdoor activities are something other schools can easily create and make available to all of the teachers using little money. Teachers can also collaborate with one another and members of the administration to apply for teaching enhancement grants.

The last resource mentioned by teachers is the professional development offered by the school on teaching EE. Professional development “may involve helping teachers to develop a comfort level in teaching outside the classroom walls as well as an
understanding of their local natural and social environment” (Ernst, 2007, p. 28). For many teachers, teaching outdoors is a challenge (this is identified as a barrier in past studies as well as this study and will be discussed later). At Trinity, they try to address this problem head on and offer the instruction and support teachers need to teach EE. The Faculty Forums are a formal example of the professional development. However, communication among teachers, as mentioned before, can also be helpful for generating new ideas and activities for teachers throughout the school. This is a time for teachers to share ideas about things that really work with students in the spaces available to them.

**Incentives for Integrating EE**

The incentives for teaching EE at Trinity are personal to each of the teachers. Shuman and Ham (1997) found that “the stronger the teachers’ commitment to teach EE, the greater the probability that they will overcome existing barriers and actually carry out the behavior” (p. 30). This was evident in the interviews conducted at Trinity. Teachers who were identified as strong proponents of EE mentioned the benefits to teaching EE for themselves as well as their students. They were more likely to take their classes outside because they felt comfortable and believed it was beneficial. Teacher comfort and confidence with science was a barrier identified in previous research.

Although teachers at the school are not rewarded financially for their teaching, they are recognized and appreciated by administration for their attempts to take students out of the traditional classroom (See Table 2.1). This recognition can be considered an incentive for teachers who enjoy praise. According to McKenzie-Mohr and Smith (1999), incentives should pair closely with the behavior and be visible. When teachers are
recognized by administration in front of other teachers they may be more likely to continue their behavior. This may also act as a prompt and an incentive for other teachers to find more ways to integrate EE activities (McKenzie-Mohr & Smith, 1999).

**Barriers to Integrating EE**

All of the barriers identified by the teachers at Trinity were also identified in the review of the literature. The most often cited barrier by the teachers was a lack of comfort being outside and with teaching about the environment. “If a teacher has a positive attitude toward teaching environmental issues (attitude), has enough knowledge on environmental issues (content knowledge), and knows how to teach the environmental issues (pedagogical knowledge), then he or she will teach the issues more often or more properly” (Kim & Fortner, 2006, p. 16). For many teachers, not knowing is a barrier. Fear of what can happen outside can prevent teachers from even trying to take students outside. Although Trinity provides resources to help teachers, spaces to teach, continuing education, and support from other teachers, some teachers still see taking students outside as a challenge.

In addition to seeing it as a challenge, a lack of time and interest for some teachers prevents them from participating in educational classes meant to help them with their teaching. A 2006 study conducted by Kim and Fortner reported teachers felt “it was important to take class time to integrate environmental concepts and issues” but also felt that “a lack of time and pursuit of curriculum standards were major barriers to addressing environmental issues” (Kim and Fortner, 2006, p. 17-18). Although the administration at
Trinity as made EE a priority, they recognize that some teachers are not going to take students out as much as they would like.

Other barriers mentioned by teachers are safety concerns that arise from taking kids outside. Although this is a real concern, Trinity has found ways to address this barrier. The “boo-boo bags” were created for teachers to grab and go when taking kids outside. Protocols have also been put into place to give teachers safety guidelines to follow when they do go out. “Good risk management programs include procedures for regular program implementation, as well as rescue, first aid and other accident follow-up procedure” (Hannah, 1992, p. 5). Trinity has created risk-management programs meant to address teachers concerns about taking kids outside. In addition, the spaces were created for teaching and learning and are safe places to take students.

Administration’s Perspective on Integrating EE

The interview with the administrator at Trinity provided information on how to start and maintain EE integration at other schools. “Dr. Amy’s” experiences allowed her to provide insight on what could work at other schools. Although she said that integration at other schools would look different, she did feel that it could be successful anywhere.

The most important piece in creating an EE program is the decision by the stakeholders at the school, administration, parents, teachers, and students, to make it important. When a community decides to make a change and makes a commitment to it they are more likely to work to create the changes. McKenzie-Mohr and Smith (1999) recognize the importance of commitments in Community-based Social Marketing theory.
Making a commitment to something often alters the way people see themselves and results in a change.

In addition to making it important, the administration at the school supports the integration of EE. The review of the literature found administrative support to be a barrier to teaching EE “While educators try to make a difference with individual students, they must also strive towards a school-wide change (Van den Berg & Vandenberghe, 1999). The entire school population should be educated to take responsible action. As such, a collaborative school culture is necessary” (Fullan, 1994 as cited in Van Petegem, et al., 2005, p. 164-165). You see this kind of collaborative effort at Trinity. The support comes from the top and from the bottom. Some key teachers at the school act as “cheerleaders” and work with the administration to promote EE integration. These key players can be thought of as “cheerleaders” who remind other members of the staff that EE is important and easily included in the school day. Burke calls these “cheerleaders” “change champions.” “Some people who were expected to resist actually embrace and become champions of the change” (Burke, 2002, p. 266). This reminder can be thought as a prompt and prompts are another variable influencing the likelihood of behavior change (McKenzie-Mohr & Smith, 1999).

Another important aspect mentioned by “Dr. Amy” is the integration of EE with the current curriculum. “EE cannot be viewed as an ‘add on’ but needs explicitly to be a component of the existing courses” (Heimlich et al., 2004, p. 32). This integration with current curriculum helps teachers who already feel pressed for time to find ways to combine core academic subjects with activities that can be conducted outside. EE can be a conduit for teaching other subjects in fun and new ways.
Recommendations for Research

While this study provided information on the EE program at Trinity School, this is just one program at one school. More research is needed to understand how EE is integrated in a school and what the outcomes of that integration are. The following are possible research topics for future study:

1. A quantitative evaluation of other private schools, using the domains found in this study as constructs in a questionnaire, to understand their EE programs.
2. A qualitative evaluation of public schools to see if the same barriers, incentives, and characteristics exist.
3. Longitudinal studies on how integrating EE impacts student views on the environment and future career decisions.
4. A qualitative study on pre-service teacher programs to determine if pre-service teachers feel if the same barriers and incentives exist when teaching EE.
5. A quantitative study to determine the influence of school administrators on EE integration.

Recommendations for Practice

The purpose of this study was to determine what characteristics of Trinity School’s culture influence EE integration. Although the results of this study cannot be generalized for other schools, the findings can be transferred and used by other schools that are creating school programs that integrate EE activities. The following are recommendations for other schools who would like to integrate EE into their curriculum:
1. A school must make a conscious decision to make EE important. This means supporting the program with resources and time. Although not every school has the same type of resources and space, a school must decide what will work at their facility and what time and resources they can put towards EE.

2. Support from the administration is important as well as support from the teachers and parents. All of these stakeholders must work together to create a vision of what their EE program will look like.

3. It important to appoint people to certain jobs within the EE program (a person in charge of the garden, a person is charge of writing grants for materials, a person who teaches classes on how to integrate EE, etc.). These point people act as “cheerleaders” and mentors to others in the school.

4. It is necessary to designate spaces at the school that can be used for EE. This can be a nearby park, the playground, or a parking lot. Setting aside the space show teachers it is important and there for them to use.

5. Provide teacher trainings on how to write grants for supplies.

6. Provide teacher training on how to use designated spaces at the school. These trainings should include ideas on lessons and activities that correlate with school standards and can be conducted in designated spaces.

7. Create a resource room with equipment and materials for everyone in the school to use. The available equipment should be known to teachers and available for check out.
8. Teachers who feel comfortable teaching EE should be partnered with teachers who feel more resistant of uncomfortable teaching outside. The more experienced teacher can act as a mentor to the less experienced teacher.

9. The administration should make an effort to acknowledge teachers in the school who are integrating EE activities. This could be done using a bulletin board that features an Environmental Educator of the month and highlights specific activities they have used in their classrooms.
REFERENCES


Guiding Question:

What features of Trinity’s culture make EE integration possible?

Focus Group Questions (for teachers identified as supporting and resisting EE integration):

1. What characteristics have influenced EE integration at Trinity?
2. What resources has Trinity provided to help you link EE to your curriculum?
3. What do you feel is the biggest incentive for teaching EE in your classroom?
4. What do you feel is the biggest barrier to teaching EE in your classroom?
5. Do you believe Trinity’s program could work at other schools? How?
APPENDIX B

Letter to the Teachers

Good afternoon << insert teacher name>>

Your Academic Leadership Team recommended we contact you concerning your voluntary participation in a small study. We are interested in the integration of EE curriculum into the daily classroom activities at Trinity School and understand that you are someone who does an exemplary job promoting EE in your teaching.

Would you be interested in participating in a short (30-45 minute) interview concerning your integration of EE curriculum in your classes? We will share the questions we would like to ask you ahead of time and your responses to those questions will remain anonymous. If you’re interested, we will be in touch soon to determine a date and time that works best for you.

Thanks so much for your consideration! Should you have any questions, please contact me or my major professor at the University of Georgia, Dr. Nicholas E. Fuhrman, at fuhrman@uga.edu or (706) 542-8828 or Dr. Alicia Andreou.

Stephanie Shumacher (stephshu@uga.edu) [404] 226-0503

Master of Agricultural Leadership Candidate

Department of Agricultural Leadership, Education, and Communication

University of Georgia
APPENDIX C

Consent Form

Dear Trinity School Educator:

I am a graduate student under the direction of Dr. Nick Fuhrman in the Department of Agricultural Leadership, Education, and Communication at The University of Georgia. I invite you to participate in my research study entitled “The Influence of School Culture on EE Integration: A Case Study” which I am conducting as part of my Master’s thesis. The purpose of this study is to determine which aspects of the Trinity School culture influence the integration (or lack thereof) of EE in the classroom curriculum.

Your participation will involve interaction with me in a 30-45 minute interview which will be audio-recorded. As soon as the interview recording is transcribed into a computer, the tape will be destroyed (within approximately 60 days). In addition, with your permission, I would like to observe your classroom teaching during one class period. Your involvement in the study is voluntary, and you may choose not to participate or to stop at any time without penalty or loss of benefits to which you are otherwise entitled. Any information you provide that is individually-identifiable will remain confidential and your name will not be associated with any of your responses. The results of the research study may be published, but your name will not be used. In fact, the published results will be presented in summary form only. Your identity will not be associated with your responses in any published format.

The findings from this project may provide information on the school climate factors that influence integration of EE into the classroom curriculum. There are no known risks or discomforts associated with this research.

If you have any questions about this research project, please feel free to call my advisor, Dr. Nick Fuhrman, at (706) 542-8828 or send an e-mail to fuhrman@uga.edu. Questions or concerns about your rights as a research participant should be directed to The Chairperson, University of Georgia Institutional Review Board, 612 Boyd GSRC, Athens, Georgia 30602-7411; telephone (706) 542-3199; email address irb@uga.edu.

By participating in the interview and allowing me in your class to observe, you are agreeing to participate in the above described research project.

Thank you for your consideration! Please keep this letter for your records.
Sincerely,

Stephanie Shumacher, Master’s Degree Candidate
APPENDIX D

Pictures of the Enviroscape

Entrance to Discovery Woods

Map of Trails and Outdoor Classrooms

Supply Shed for River Kids Equipment
Boots for River Kids and Creek Exploring

Seating Area on Discovery Woods Trail

Outdoor Classroom in Discovery Woods
Kindergarten Five Senses Garden

Amphitheater

Composting Area
Playhouse on Lower Grades Playground

Slide on Lower Grades Playground
Play Kitchen on Lower School Playground