Education and Development in Rural Appalachia: An Environmental Education Perspective

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This dissertation titled

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This study examines education and development in Appalachia using environmental education as the theoretical basis. Despite over 50 years of public attention to the educational and developmental disparities in the Central Appalachian region, these disparities still exist. Thus, the investigation into a new paradigm seems appropriate (Eller, 2008). The overarching research question seeks to explore whether a sustainable Appalachian perspective can serve to anchor an educational and developmental system that meets the needs of the Appalachian people. This study adopted a naturalistic qualitative approach. Naturalistic inquiry studies real-world situations as they unfold naturally; it also lacks predetermined constraints on outcomes and is characterized by openness to whatever emerges (Patton, 1990; Lincoln & Guba, 1985). The main source of data was through interviews of seven participants through purposeful sampling of information rich individuals.

The findings of the study show that the development of a sustainable economy in Appalachia could produce a more affluent and environmentally just life for the region’s residents and represents a new paradigm. The findings point out that a sustainable
economy in Appalachia must include an agricultural component and that food production and food security is tied to regional ideas of place and identity.

Environmental education is seen as a foundation of this development. Finally, the development of a sustainable economy must come from the grassroots, and the development of a mechanism to tie together the constructs of economic empowerment, education, environmental, and ecological justice in a coherent and practical way. The study indicates that Environmental Education can be the mechanism that serves that purpose as it contains all those constructs. I would contend that Appalachia is not unique in this, but that all culture is based in place and that environmental education methods are apropos for education and development methods. The broader application of these conclusions is that communities that express themselves largely through indigenous worldviews should confront the world and their developmental priorities using paradigms that align with environmental education.

Approved: _____________________________________________________________

Francis E. Godwyll

Assistant Professor of Educational Studies
Dedication

I wish to dedicate this work to the following people:

Ann Addington, my loving and supportive spouse

Lucille Alley Maple, my mother for her unfailing faith

Wells, Lauren, and Jenna, my children for their unqualified love
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Chapter One: Introduction

Background to the Study

This study will examine education and development in Appalachia using environmental education as the theoretical basis. I will explore the history of Appalachia’s development and its ties to the education, culture, and economic systems in the region. I will also explore concepts such as environmental justice and its relationship to social justice and I will examine concepts such as place, sustainability, and Appalachian identity and their relation to education and development in the region.

Examining current education in Appalachia would be remiss without exploring Appalachian studies and its influences. Finally I will examine Appalachian studies in relation to environmental education.

Appalachian studies and environmental studies arose separately as disciplines in the late 1960s. Environmental studies was generated in response to environmental degradation around the world at large and in the Appalachian region, while Appalachian studies arose in part in response to the economic environment in Appalachia and its effect on its people (Lewis, 1981; Lopez, 2007). One could say that the two disciplines are two faces of the same problem, a disregard of the common good for the benefit of a few. Appalachian studies, examines the effects of the exploitation of the Appalachian region by development. Environmental studies comes out of the idea of the “commons” where some part of the village is held in trust for the common use by the village and explores the effects of the exploitation of the common trust (Lopez, 2007). The theory of environmental education has within it and is derived from the concept of ecological
perspective. Ecological perspective represents a holistic view of circumstances surrounding a problem and yields more broad based answers (Orr, 1992). By looking through the lens of an ecological perspective, we can begin to examine this loss of the common good and gain an understanding of the relationship between environmental education and Appalachian studies. I believe the consideration of an ecological perspective as it affects education and learning in the rural Appalachian region is pertinent to understanding the region. The history of the people and culture in Appalachia are certainly reflective of the ecology of the region. Although disagreement exists about how extensive the influence has been, many writers agree that it is major (Caudill, 1962; Raitz & Ulack, 1984; Davis, 2000; Williams, 2002).

The physical environment of much of the Appalachian region consists of hilly to mountainous terrain, which creates isolated microenvironments within a larger, highly complex bioregion (McHarg, 1971; Davis, 2000). The geographical structure of the Cumberland Plateau, which makes up most of the central Appalachian region, is sedimentary in nature (Hunt, 1967). This produces a situation where the only reliable water sources are the valley bottom aquifers the sources of water above the valley bottoms consisting of perched aquifers of sandstone or limestone, layered between nonconductive layers of clay or shale (Raitz & Ulack, 1984). The limited water sources limited human occupation of large amounts of land mass, and combined with the dissected nature of the morphology of the plateau contributed to the growth of isolated settlements throughout the region.
Another effect of the physical nature of the region is the flooding to the valley structure when the vegetative cover is removed, due to the impenetrable nature of the underlying rock layers (Hunt, 1967; Davis, 2000). This is aggravated by the fact that removal of the vegetation cover creates an extreme runoff condition since the leaf layers or duff is missing. The very act of clearing the land for human habitation produces a condition that limits human habitation (McHarg, 1971; Davis, 2000). The land is extremely fragile and resists adaptation to modern technological development, which tends to produce gouged-out looking mud pits as building locations. These forces require the creation of flood walls and stream channeling for urban occupations in valley locations (Raitz & Ulack, 1984).

The isolated temperate rainforest biome has produced a very diverse speciation of plants including wide varieties of tree species, understory species, and herbaceous species (McHarg, 1971; Davis, 2000). This largess of plants also allowed the development of herbal lore and shamanlike medical practitioners for both human and animal patients. The early immigrants to the Appalachian region adopted and adapted agricultural methods from the Native Americans rather than strictly maintaining their own agricultural traditions (Caudill, 1962; Davis, 2000). European Agriculture while somewhat adaptable to the East Coast of North America was less adaptable to the Appalachian region due to the physical environment and climate (Caudill, 1962; Davis, 2000; Williams, 2002).

Although a picture of an isolated culture has often been painted given the physical isolation, we know that large-scale commerce was going on between the Appalachian region and areas outside. This commerce was established in the earliest settlements and
continued down through 18th and 19th centuries (Davis, 2000; Barksdale, 2009). These facts conflict with the reasons given by local color writers and culture of poverty advocates for the lack of development in the region.

Many see the Civil War as another division between Appalachia and its surrounding areas. Central Appalachia was surrounded by Western Kentucky, West Tennessee, Eastern Virginia, Eastern North Carolina, Eastern South Carolina, and Southern Georgia, all regions in which the populations were largely sympathetic to the Confederate cause because of the large plantation type agriculture and the institution of slavery to underpin that agriculture (Shapiro, 1978). Prior to the war, antislavery sentiments erupted in Eastern Tennessee with Ezekiel Birdseye’s advocating a revival of the state of Franklin as a separate and Free State (Barksdale, 2009) but were later subsumed to the fiscal realities. Still, the Central Appalachian region was largely divided politically with more of the population leaning to the Union than not. This lack of support for the Confederacy produced very devastating infighting and allowed for the creation of the state of West Virginia by the Union (Caudill, 1962, Shapiro, 1978). The devastation of the Civil War also disrupted Appalachia in its development (Caudill, 1962; Shapiro, 1978; Williams, 2002).

After the Civil War, Appalachia began to be seen as a storehouse of raw materials for the postwar industrial boom. Railroads penetrated into the inaccessible mountains and provided a means of transportation out for the raw materials -- first timber, then coal and other minerals (Eller, 1982: Williams, 2002). Due to the fragile nature of the existing ecology these industrial activities proved to be devastating. Subsistence agriculture
became less and less viable as game and wild foods which had been a needed source of additional supplemental food sources disappeared with the timber stands (Caudill, 1962; Eller, 1982; Davis, 2000; Williams, 2002). Water courses changed in character from clear streams with native trout to clogged, muddy, flooding rivers. What aquifers that existed disappeared with the timber. Families were forced to move farther up the hollows for farming and pasture, and finally to the ridge tops, to eke out diminishing agricultural returns. Former self-sufficient farmers began to move into timber and coal camps in order to survive (Caudill, 1962; Eller, 1982; Davis, 2000; Williams, 2002).

Such formerly self-sufficient people were often neither content with nor welcoming to those changes. The industrialists in turn used every legal and social advantage they could to produce economic gain at the expense of the native inhabitants. The late 19th century saw Appalachians being characterized as lazy, ignorant, unchurched, clannish, immoral, and incapable of self-government in order to justify control of resources by outside capital (Caudill, 1962; Lewis, Kobak & Johnson, 1978; Shapiro 1978).

In the 20th century, the cure for the “problem of Appalachia” became a two-pronged approach of development of the infrastructure through roads, water and sewage systems and other infrastructure and the education and training of the residents to further integrate Appalachia into the rest of the country (Eller, 2008). So any opposition of Appalachians to the destruction of their mountains has often been viewed as ignorance in the face of progress. Cultural pride in mountain music and crafts along with medicinal folklore is seen as parochial, or, at best, quaint (Lewis & Knipe, 1978). The resistance of
some Appalachians to a nationalist cultural education is seen as anti-education rather than as a cultural bias concerning content and many people who live in Appalachia refuse to fully integrate into mainstream America (Halperin, 1991; Lewis & Knipe, 1978; Shapiro, 1978).

Yet these cultural differences are rooted in those mountains that spawned the Appalachian culture. The sense of place is an overwhelming part of the culture and is tied to the unique ecology of Appalachia. As Grunewald (2008) observed, quoting Gertz (1996) “Our cultural experience is placed in the “geography of our everyday lives, and in the ecology of the diverse relationships that take place within and between places” (p. 137). Understanding the environment of Appalachia is key to understanding the culture and the life force of that culture tied to the environment. Thus, education and development that respects Appalachian culture should reflect the grounding in the environment and ecology of the Appalachian region.

Almost from the beginning education in Appalachia has reflected what outsiders thought it should be. The education that was offered in most cases did not reflect any understanding or respect for the native culture; it was based in a more generalized public education (Branscome, 1970). The failure to consider localized wants and needs in education produced a situation in which, other than limited professions such as teaching, an educated person was often only of value outside the region (Lewis, Kobak & Johnson, 1978). Thus, educated children tended to leave the region or at best migrate to urban areas within the region, in effect causing a regional “brain-drain” (Branscombe, 1970; Lewis, et al, 1978). This has helped to produce a dichotomous attitude in Appalachian
parents of wanting education for their children, yet fearing the consequences of that education (Branscombe, 1970).

Education began to be seen by Appalachians as just another method used to control and exploit the mountaineer (Lewis, Kobak & Johnson, 1978). Great efforts were made to “educate the hillbilly out” of the Appalachians (Branscombe, 1970). This exploitation began to be seen and named during the 20th century as a type of colonization. In an effort to counteract or decolonize native Appalachians, a group of scholars began to produce work in an academic field that became Appalachian studies (Branscombe, 1970; Lewis, et al, 1978). Fifty years later, we are still attempting to produce a viable counterhegemonic discipline. It is my contention that Appalachian studies must be a holistic study to be effective, one that reflects not only the social culture of Appalachia but also reflects the physical world that produced that culture.

**Statement of the Problem**

Despite over 50 years of public attention to the educational and developmental disparities in the Central Appalachian region, these disparities still exist despite inclusion of different ideas and approaches developed by the political, socioeconomic, and educational communities. It is fair to assume that if the programs were conceptualized to respond to the regional needs and environmental impact, we must look at what these programs actually intend to accomplish. The idea of a new paradigm for an economy seems appropriate (Eller, 2008). Bringing the environment of place, through environmental education, to the platform from which culture, education, and development spring illustrates a new paradigm. I contend that due to existing cultural
norms concerning attachment to place and traditions of subsistence in Appalachia, and, for that matter, in most societies this paradigm is especially appropriate.

The implementation of sustainable economy requires questioning of the basic premises of the postmodern economy. I believe that Environmental education allows the student to get outside of the postmodern view in order to question it (Clover, 2003). It is my premise that an environmentally based economy really acts through the culture to influence the society educationally and developmentally (Berry, 1992; Orr, 2004, Bowers 2004). In a sense it accounts for the damage of the impact of human activity that the economically based or postmodern economy ignores. Given the true costs of its actions, society can make an informed choice about its own actions and decide what costs it is willing to pay for a commodity. In a real sense the environmentally based economy is a liberating economy not a limitation economy. The economy is freed from the blind hand of market forces and replaces monetary valuation with societal benefits as the basis of evaluation.

**Research Questions**

The overarching research question is whether a sustainable Appalachian perspective can serve to anchor an educational and developmental system that meets the needs of the Appalachian people. The research questions are informed by the gaps identified in the literature as well as the theoretical framework. Specifically the following are examined:

1. How does Appalachian studies relate to the region?
2. How does place relate to Appalachian culture and how does it express itself in that culture?

3. What are the connections between environmental education and Appalachia?

4. What are the issues of environmental justice in Appalachia?

5. How can we engage the questions of development in the Appalachian region?

6. What are the perspectives on sustainability in Appalachian?

**Purpose of the Study**

The purpose of the study was to examine how the concept of place intersects with Appalachian culture and environmental education; assess the understanding of environmental education and examine the curricular and experiential content of educational programs in the light of environmental educational ideas; determine if environmental justice and sustainable development are viewed as concepts to be part of Appalachian studies programming and developmental models.; explore new options concerning environmental education and its impact on the region.

**Significance**

This study could be beneficial to a number of institutions and agencies that could benefit from the results as they can continue to serve the Appalachian region. They can also glean from my research findings some possible pragmatic approaches to engaging the Appalachian communities in their programs.

The Appalachian Regional Commission (ARC), which is chief engine of development in the region, may find the findings useful in assessing existing policies, practices, and services deliveries. There are other not-for-profit non-governmental
agencies and organizations (NGO’s) many which have ecologically based missions that can utilize the study. By tying the concept of environmental education and Appalachian culture they might begin to affect the local political and sociological entities.

Finally, public schools in the region could benefit by using the findings from the study and may be able to make a case for more individualized programs of study at the schools in the region. This could counter current movements towards homogenization and the emphasis on national and state standards -based education we find in public schools.

**Delimitations**

This study is delimited by the Appalachian region, individuals, and institutions within the region involved in Appalachian development programs or those involved in education programs reflective of the Appalachian region.

**Definitions of Terms**

For the purpose of this study the following operational definitions were adopted.

*Appalachia* – A geographic region generally bounded within the eastern mountainous region of the United States.

*Central Appalachia* – An area generally considered to include West Virginia, Eastern Kentucky, Western Virginia, Eastern Tennessee, and Western North Carolina. Southern Ohio is sometimes considered part of this region of Appalachia. This area is the focus of my study.

*Colonization* – The economic and political domination of a geopolitical province by an outside more powerful geopolitical province for the economic benefit of that outside
entity. Historically, this term has been applied, for example, to the domination of parts of Africa and Asia by European countries.

*Culture* – The social structure by which a group of people make sense of their world.

*Development* – Changes to the physical and social infrastructure of a region that produces economic well-being for the inhabitants.

*Ecological Justice* – The idea conceptualizing that the natural world must be treated in a just manner by humankind.

*Environmental Education* – An educational system that involves not only ecological information but also forms its structure by taking into account the ideas of environmental and ecological justice. It attempts to bring the holism to its view of the world.

*Environmental Justice* – The idea that all groups of people have an equal right to an environment that is as undisturbed and natural as any other.

*False Consciousness* – The Marxist based idea that individuals or groups can adopt ideas or take actions that are perceived to benefit them but that are actually detrimental to their overall well-being.
Chapter Two: Literature Review

Introduction

The literature review examines three topics: (a) Appalachia from historical and cultural perspectives, (b) education and development in Appalachia, and (c) environmental education as a theoretical lens for examining Appalachian education and development. In order to discuss education in Appalachia adequately it is critical to elaborate on the culture that education seeks to prepare students for. Because education is broadly conceptualized as the transmission of culture, our exposure to the culture assists me in placing the educational delivery in Appalachia in a context. The cultural component should also draw out the contradictions and tensions that exist between education and culture in the region. Discussing education in Appalachia also brings up other factors that impact education delivery. I will discuss the theoretical framework for the study: environmental education and show how it applies to my study.

Appalachia and its Culture

Appalachian culture, according to Caudill in *Night Comes to the Cumberlands* (1962), is based in the history of the frontiersman. Caudill (1962) asserts that the early Appalachian wished to preserve the freedom and harsh existence of the frontier rather than accept the advances and influences of civilization. This hard scrabble existence was modeled after the life of Native Americans, subsistence farming, hunting, and fishing. Caudill asserts that a more classed based society began to evolve with the passage of time, along with coal and timber interests that affected the local culture.
Modern Appalachia still maintained many of the cultural identifiers of the older mountain culture that included among others agricultural methods, and reliance on hunting and fishing to provide substantial food sources; traditional music accompanied by the fiddle, banjo, dulcimer, and the preservation of quilting as a folk art (Caudill, 1962).

Jack Weller, a Presbyterian minister who spent many years in the mountains of Appalachia as a missionary, viewed the mountaineer as exhibiting the traits of individualism, traditionalism, fatalism, and saw them as seekers of action. He also describes the mountaineer as dominated by the fear of rejection by one’s groups, with an almost totally person-oriented outlook rather than an object-oriented view of the world. Weller (1966) uses these traits as the basis of his analysis of Appalachians and their culture, blaming the apparent poverty and seemingly lack of industry on these traits, and in essence blames the victim for his/her circumstance. Weller (1978) later published an article that aligned his thinking with the colonial theory of Appalachian poverty, which places blame on outside forces for victimizing the mountaineer.

Eller (1991), in *The Search for Community in Appalachia*, questions the “individualism” theory of mountain culture. His concerns were not based on the idea that the people were often materially self-sufficient, but rather on the portrayal of an Appalachians as an unconnected social community. Eller (1991) asserts that this stereotype is just one of many used to justify the dehumanization and exploitation of the mountaineer to permit economic colonialism by outside capitalists. The mountaineer, according to this stereotype, is incapable of a normal community life, is too independent,
too focused on feuds, and too violent to form a community. He writes how this extended community of interdependent families practiced communal and cooperative efforts that allowed them to survive. Eller (1991) also points out that “individualism” in community is really associated with the rise of capitalism and modernity, not frontier life (p.150).

Batteau (1991) argues that Appalachian culture is not reflective of a social group and that Appalachia lacks clear group boundaries and a constant or unique culture. He wants to define Appalachia historically as the convergence between two traditions: the external American tradition that defined Appalachia in terms of its own understanding, and the internal tradition of social relationships that have endured in the region and constitute the mountain community. These, according to Batteau, provide the most important meanings in life for the Appalachian. Batteau’s view of Appalachia sees the evolution of the values of Appalachia in “response to history” and “culture as a political creation” rather than based on the definition of a delineated group (p.166).

Jones (1991) agrees more with Caudill’s characterizations. He lists the values represented by Appalachian culture as devotion to religion, individualism, self-reliance, neighborliness and hospitality, family solidarity, personalism, love of place, modesty and being one’s self, sense of beauty, humor, and patriotism. He is unapologetic concerning the ways of the mountain people and believes that they represent a native culture as certain as the mountains that contains them. Jones sees these values as being lost in mainstream American culture and writes that adherence to these values by the Appalachian has provided opportunity for unscrupulous outsiders to take advantage of the trust of mountain people.
The Appalachia of today has adapted to the influence of modern mainstream culture. As Eller (2008) sees it:

Since World War I, during my lifetime, Appalachia has undergone dramatic change. The long lines of unemployment at government commodity distribution centers have given way to lines of commuters in Wal-Mart superstores acquiring the latest in consumer products of a world economy. (p. 4)

These changes although providing a better life by consumer standards, has according to Eller (2008) came at a “tremendous cost to the environment, at the displacement of millions of rural residents and at the loss of traditional values and cultures” (p. 5).

Contrasting Cultures

Appalachian culture has been rooted in the historical context of the region from its early beginnings. It was settled by persons largely escaping oppressive economic and social conditions within the early British colonies. Areas of Appalachia were affected by the bitter and horrendous period of the Civil War. The killing and brutality that occurred in parts of the region during the war had particularly long-lasting effects that contributed to feuds and ill feelings between groups of Appalachians (Caudill, 1962).

The culture reflects the economic invasion of the late 19th century by the coal and timber interests that wrested the possession of these resources from the hands of their owners, culminating in the literal serfdom of most of the inhabitants of the region to those industrial interests. Some cultural values, as cited by Jones (1991) appear to be in tension with the more nationalist values promoted by the industrialists. This tension can create a stalemate in the individual, which is often interpreted as “fatalism” or “the lack of
ambition” by many writers, or as Batteau (1991) points out, the interpretation of understanding by those observing from and on the outside.

The ontological basis for much of the difference between Appalachian and the mainstream, more nationalist culture is tackled by Weller (1968) in his explanation of the mountaineer’s psychology. Weller explains that Appalachians are people oriented which means that the mountaineer’s view of the meaning of life comes from his social relationships within his group. This is opposed to an object-oriented people who obtain life meaning from external objects and goals, which Weller characterizes as mainstream America.

Halperin (1991) touches on this issue of value orientation. She illuminates the people-oriented methods that people call the “Kentucky Way” (p.239) as a means of providing economic sustainability in Eastern Kentucky that subsumes economic gain to the family and is based in a relational way of life with place. The people in her study exhibit all the characteristics of the “Appalachian” such as independence, self reliance, love of place, and family orientation versus individualism. Halperin recognizes is that the livelihoods of these modern day mountaineers have been adapted from the fringes of modernity, while still being grounded in the people-oriented ontology of the mountaineer.

**Education in Appalachia**

**Background**

The educational system in Appalachia began by trying to alienate the children from their parents in terms of cultural values, language, and religion. The early years of education were largely funded through the missionary movement. Later during the 20th
century, education in the region became a state supported enterprise, although the goals may not have changed that much from the time of the missionaries. Mike Clark, a graduate of Berea College and later a director at the Highlander Center, understood the process of education perhaps too well. Addressing the graduating class at Berea in 1970 on the evils of colonialism, he explained how an empire needs to educate and use the local people to build an educated class, whose loyalties were to the oppressors and not to their own people. This is not necessarily conscious on the part of the members of the educated class but rather a means to preserve the privilege that they have been granted by the true ruling class in their roles as “middle men” (Clark, 1978). The unconsciousness of this role reflects Freire’s (1993) views on the necessity of conscientizing for liberation. Branscombe (1978), in ”Annihilating the Hillbilly” states that the middle class teacher in the Appalachian school is just as insistent as the teacher in a Bureau of Indian Affairs school that his students be aggressive, obedient, and joyless, everything the students’ culture tells them not to be. He also points out that postsecondary institution are no better: the church supported institutions are largely self-absorbed and remote from the region, and, as Branscombe states, the state-supported institutions place little emphasis on regional consciousness, despite the fact they are physically located in Appalachia.

A case study in a North Carolina school within the Appalachian mountainous region (Reck, Reck, and Keefe, 1993) showed how expectations were different for town and recently immigrated children and the local rural children. The rural class was considered less intelligent, in need of corporal punishment, and generally socially inferior. These perceptions were used as the basis for the treatment of students by the
teachers, with “over 80% of the teachers responding that their students were treated differently depending on their group identity” (Reck, et al, 1993, p. 119). The real irony is that teachers who were Appalachian in origin were even more likely to volunteer the distinctions in the form of epithets (Reck, et al, 1993); as Freire points out the oppressed identify with the oppressors.

While the education system in Appalachia has perhaps become less blatantly anti-Appalachian, it still appears to be providing a less than stellar education to the children of the region. Economic success in the United States requires the attainment of the highest educational levels possible and the lack of attainment in Appalachia is perhaps surprising, or perhaps indicative of other social forces at work. The idea that education in Appalachia has acted to alienate children from their parents and communities is fairly well grounded; the realization that educated Appalachians tend to leave the region is also a reality, leading to a net export of educated persons (Lewis, Kobak, & Johnson et al. 1978; White, 1989). This leads to the conclusion that educational systems in Appalachia may need to be reformed in some ways that are more reflective of the region in which they are situated.

Education in Appalachia has a complexity that is rooted in the political nature of education in the region. From its beginnings to today, education in Appalachia has represented much more than learning reading, writing, and arithmetic (the “three R’s”). It has represented literacy, hope, disappointment, colonization, and prejudice. According to Caudill, the original settlers in Appalachia had little time or inclination for schooling.
Education was considered a luxury for the well-to-do and the truth was that for the majority, literacy never existed (Caudill, 1962).

Weller’s take on education in the mountains is based on the premise that the mountaineers didn’t really want their children educated. He saw them fearing education as some threat from the outside that would destroy their family structure with the children excelling beyond their parents in intellectual prowess (Weller, 1966). Lewis, et al, 1978) saw other ramifications from education. They explain that education was a tool that was used by the missionaries to convert the mountaineers to mainline churches and accept the new ways of corporate America. Missionaries started the Hindman and Pine Mountain settlement schools such as the one Alice Lloyd founded on Caney Creek.

The chief characteristic of these settlement schools was a commitment to teach middle- class values and beliefs (Lewis, et al, 1978). Searles (1995) elucidates Alice Lloyd’s dedication to George Palmers, professor and department chair of philosophy at Harvard University, as the college followed his plan of self-consciousness, self-direction, self-development, and self-sacrifice. These ideas were clearly articulated to promote a rational disciplined life in opposition to what was perceived as the undisciplined lifestyle of Appalachian citizens.

Branscombe (1991) characterizes the Appalachian school system as a place where children face “culturally deficient school teachers” who embroil the students in a cultural war. He likens schools to a channeling process that directs some students to college, some to business, some to war and some to welfare, rather than training them for self-direction. He points out that Appalachia is heavily populated with institutions of
higher learning (state and church supported), but they do not serve the region’s students by incorporating “Appalachian studies” in any significant way. Branscome argued that although schools are physically placed in Appalachia, they have little or no relevance to the students of the region regarding understanding the world of their experience. This idea of relevance of education was and still is extremely important to the pragmatic nature of Appalachian people.

Branscombe (1991) originally wrote his article in 1970 and today 40 years later, very little has changed. Ohio University still offers no level of programming in Appalachian studies. Marshall University offers a certification program at the undergraduate level only, and Appalachian State University offers an undergraduate degree and the only graduate degree (master’s) in the country through its College of Arts and Sciences. The University of Kentucky offers a minor to undergraduates and a specialty for graduate students in certain departments; West Virginia University does not offer any programming in Appalachian studies (Appalachian State University, 2007; Marshall University, 2007; University of Kentucky, 2007). Perhaps the characterization should be about the support of education in and about Appalachia by the educational institutions and not the inhabitants.

**Barriers to Education**

The economic issues surrounding education cannot be ignored. Direct college costs like tuition and books have risen far more than inflation, at a rate of 47% between 1994 and 2004 (Hempel, 2004). This dramatic increase in the cost of a college education has started to affect the middle class, setting up a barrier for the attainment of higher
education. One of the items often cited as a barrier to college education by traditional and non-traditional students in Appalachia is its cost (Spohn & Crowther, 1992). Pell grants in 2004 covered only about 40% of the cost of public colleges and universities compared to 84% in 1972 (Hempel, 2004). Hempel (2004) also cites data that show only 21% of college-qualified students from families with incomes under $25,000 a year graduate from college. According to the ARC (2007), 2006 per capita income figures for Appalachia regions were: Kentucky - $13,664; Virginia - $16,900; Ohio - $18,000; West Virginia - $17,856. If we look at the coal region in West Virginia the rates go down even further. In McDowell County, for example, per capita income was $8,296. These incomes are compared to an overall per capita in the United States of $26,420 in 2006.

Another possible barrier for traditional and nontraditional students is the more traditional family-oriented attitudes of Appalachians concerning women. Halperin (1991) points out area women resist specialization and gravitate towards being a “good Kentucky woman,” one who understands food production and processing along with other home duties. However, Sohn (1999) followed a group of nontraditional female students who attended and graduated from college to determine its effect on their lives. The women sought support from their families and received it. They did not receive the same support from their in-laws, but following graduation their in-laws became supportive. Of the eight women, six reported spousal support. The other two marriages where spouses were not supportive ended in divorce. These findings suggest that Appalachia can incorporate women’s economic achievements outside the home.
Sohn’s (1999) findings concerning family support showed that the women solicited parental approval even though they were adults. The youngest of the eight women had been out of high school for seven years and the eldest one for 24 years. The findings also showed that a higher percentage of nontraditional students saw themselves as having the greatest influence on their decision making compared to others—31% versus 11% among traditional students. Coupled with the fact that two women from the group went on to complete college despite spousal disapproval may indicate more independent decision making.

Caudill (1993) cites transportation, lack of education of parents, lack of specialized services, and overall poverty in relation to urban areas as problems in providing a quality education. She states that the poverty rate has grown over 55% in rural areas throughout the United States. Local government is often funded through land tax, and property values in rural areas are lower than areas of higher population. The need for services being higher, the provisions being lower, strains rural areas and its inhabitants.

The barriers to higher and secondary education are numerous. One of the chief barriers is the local economy as college education today requires monetary resources and those associated costs are growing every day. Parental fears of “losing” their children to the world at large is understandable in light of the massive outmigrations of the past. Education that is not relevant to the community is sometimes seen as a threat, but degrees in education, social work, and nursing along with visible technical type work such as engineering, computer training, and electronics are examples of areas that might be seen
as relevant among Appalachian students. There may be less attainability for traditional professional degrees such as medicine and law because students are often required to travel further and stay away from home for longer periods.

The strength of Appalachian culture for educational achievement lies in the strength of the family group. Students listen to their families and if the families see education as important, the students will. Traditional education has not related to the cultural background of Appalachians in any real degree or way. Education may not have made itself relevant to the life experiences of many Appalachians.

Education that failed the parents and grandparents in the past is not proving itself to be of any more relevance to the students of today. This history coupled with the economic price of education means that Appalachian families have difficulty making a case for investment by the students and their parents. When we invest money in some vehicle we expect a return or a profit. Education has failed to make the case of “profitability” for many students. Education must be made relevant and be seen to be relevant to earn the respect and support of families. The answer for a meaningful education in Appalachia may be rooted in the Appalachians themselves.

**Support for Education by the Inhabitants of Appalachia**

Appalachian culture and education exhibit a tension between the goals of generalized education and Appalachian culture. The independent and self-sufficient nature of the Appalachian, as described in various sources (Caudill, 1962; Weller, 1966; Halperin, 1991; Jones, 1991), appears to value the pragmatic over the esoteric, and survival in the past required pragmatism during hard times. While the mountaineer values
beauty and art, these endeavors seem to be relegated, like the ministry, to those with the “gift” and not seemingly worth “becoming educated for”. While this may seem harsh, I point to the indigenous churches where ministers are expected to come from within to answer a personal calling and are not usually professionally trained (Dorgan, 2004).

This innate requirement for pragmatism is seen in the long battle over the establishment of school curriculum in Appalachia (Shaw, De Young, Rademacher, 2004). This may be part of the reason behind the lower college attendance and graduation achievement rates since college is seen as unnecessary for economic well-being (or, perhaps, because the cost versus benefit ratio of college education is too high). If this perception is true then the more rural areas should have fewer college graduates, not because they are not as intelligent, but because the work force does not require higher degrees of education. A further examination of Shaw et al.’s research reveals that this is true, with rural areas of Appalachia having the fewest college graduates per capita.

What Shaw et al. also find is that the percentage of college graduates have increased in all areas of Appalachia. I would suspect that there should be a correlation between job growth and college graduation. Mencken (1997) in his work found that education was a positive indicator of economic well being in all areas of Appalachia and that mining was a counter-indicator. While we can speculate on which came first, education or jobs, it may in fact be a more synergistic relationship.

DeYoung (1995) states that in many rural places, subcultures are influential and operate differently than do those in metropolitan America. These places include schools where students and teachers are linked through formal and informal networks beyond the
student–teacher relationship, where the separation of church and state is openly contested, where expectations for a utilitarian high school education rather than college exist, and where the school building itself may be a community and personal link to previous generations. He points out how local schools have been under attack since the 19th century in an effort to “modernize” them and that the transfer of power from local to state and national levels has been the easiest of school reforms. DeYoung also points out that in rural areas the public school is often the primary cultural bridge between regional subcultures and the national culture.

DeYoung (1995) then relates his findings from Braxton County, West Virginia, where he did a case study on the schools. He found persistent parental attitudes adhering to the idea of dignity in skilled labor and the value of physical labor. This was in contrast to the goals of the West Virginia department of education that emphasizes postindustrial skills and the information highway. His experience with the county superintendents showed that the county school administrators supported the nationalist culture paradigm and rejected the idea of celebrating Appalachian culture. This illustrates how the pragmatic nature of Appalachian culture is ignored rather than valued within the school system. This is not to discount the possibility of a career in the global market but rather to point out that the emphases of the schools are perceived as being in that direction.

Merrifield, White, and Bingman (1994) explained that rural areas of Appalachia have and are experiencing a brain drain of their educated people and that education has represented a “ticket out” and not an asset for the community. They explain that educators have not considered this phenomenon in their analysis of the benefits of
education and that educators need to create programs that will give people skills and a sense of efficacy to become involved in their communities’ development. They further explain that the relationship between more education and better employment is often not realized in the Appalachian region, which is another incentive for people to move on. They point out that in Ivanhoe, Virginia, the Ivanhoe Civic League was started to attract new industry to the town but switched its focus to offering literacy classes and community college classes. Additionally, it has renovated housing and in turn has become the community’s largest employer, which in effect has tied education and development together. The conclusion of the study finds that programs that build community and also involve teaching and learning adopt a democratic approach, straying from conventional ways.

**Expectations in Appalachia for Students Today**

A study by Reck, et al (1993) in North Carolina revealed a staggering culture of prejudice and discrimination often on the part of the teachers in reference to the rural students whom they saw as not deserving or wanting education. These attitudes were exhibited by both native and nonnative teachers. Reck et al. (1993), found that the traits that were attributed to Appalachians reflected a lower socioeconomic status (SES), pointing to a class conflict as much as a cultural one. They found that the natives who were teachers identified with the middle class culture and not with what they considered Appalachian culture.

So what effect does the attitude of school personnel have on students’ attitudes? According to Spohn & Crowther (1992) in *Appalachian Access and Success*, a study by
the Institute of Local Government Administration and Rural Development (ILGARD) on Appalachia Ohio researchers indicated that only 38% of students cited teachers as among their top three influences and only 4.7% cited a teacher as a primary influence, and only 27% cited guidance counselors as being influential. Teacher’s attitudes, though, were contrasting, as 72% of them thought they were influential and 9.4% thought they were a primary influence. Teachers saw themselves as being twice as influential as the students saw them to be. Relating to teachers attitudes towards parents, 39% of the teachers thought that 25% of parents encouraged higher education, 38% of teachers cited the figure of parental encouragement at 25% to 50%, and 22% thought more than 50% of parents encouraged higher education. This is opposed to 96% of parents who stated they encouraged higher education. There is also evidence of targeting by teachers (or at least this is the perception of the students). Targeting would be reflective of the low expectations that some teachers have for their students. These teacher expectations could be in relation to perceived parental attitudes, or in relationship to the perceived student abilities. The mean percentage of students regarded as capable of postsecondary higher education by teachers was 45% (Spohn & Crowther, 1992).

The Appalachian Access and Success report in its section on nontraditional students in Appalachian Ohio lists the following findings in contrast to traditional students: nontraditional Appalachian students are married, they are not looking to migrate, they want to attend school part-time, they had lower grades in high school than traditional students, they have less parental encouragement, and they have a lower proportion of college preparatory classes. The nontraditional students still regard parents
as their greatest influence, which was surprising to the researchers but possibly indicative of the students’ Appalachian cultural roots that reflect strong ties to the family and its importance in decision making. The main barrier to college cited was financial constraints, while the lack of information about financial aid was second. The attitudes presented to students by their teachers appear to be discouraging to the majority of students, with only a minority of students thought to be capable of postsecondary work by teachers. Parents, however, see themselves as being supportive.

A different view of expectations is reported in a study by Ali and Saunders (2006). The study found correlations between students who endorse high levels of belief in educational self-efficacy and expectations of college attendance. They found that these beliefs and perceived parental support were the only significant predictors of college expectations. This may in fact be reflective of the ideas of independence and self-reliance and family ties that are indicative of Appalachian value systems.

**Education Attainment in Appalachia**

The high school graduation rates for West Virginia in 2005-2006 as posted on the No Child Left Behind (NCLB) Web site show a graduation rate of 84% overall and a rate of 74% for students designated as lower SES by the NCLB (West Virginia Department of Education, 2007). These rates are in line with the census data of Appalachia as a whole from 2000, which showed a graduation rate of 76%. What is perhaps more telling is a college graduation rate of 17% for the region compared with a rate of 25% for the United States as a whole (Shaw, et al, 2004). This differential represents an 8% deficit for college graduation rates in Appalachia compared with the
United States as a whole. When educational attainment is examined on a more internal basis we find an even more telling picture. If the core of Appalachia is examined by removing the geographical regions to the north and south and just representing the Central Appalachian region (made up of parts of Kentucky, West Virginia, Tennessee and Virginia) the picture becomes even more discouraging. The year 2000 shows an overall high school graduation rate of 64% and a college degree attainment of 11%. These figures, when compared to the United States as whole, show fairly wide differences: a 16% deficit in high school graduation rates and nearly 14% in college graduation (Shaw et al. 2004). The difference in college graduates represents more than a two to one advantage. One explanation for the larger disparity in central Appalachia is the relative absence of metropolitan areas. As Shaw et al., illustrate, the metro, urban and rural areas of Appalachia compare to those areas throughout the United States but trail between 3-5% in college graduates.

According to Shaw, et al. (2004), the Appalachians believed that families and churches were their primary moral institutions, not the schools. Furthermore, the idea that schools should function as the source of salvation and moral instruction was an urban idea championed in the 19th century by the Common School, an institution that promoted the Protestant moral and work ethic along with a dash of Americanism. This became a point of contention between school reformers, urban politicians, and rural constituents in Appalachia and has served to depress school attendance throughout the region. It was not until after Word War II that education beyond the eighth grade became common. Shaw et al. (2004) point out that public secondary school was a little easier sell as it was viewed
by the populace as being more vocational in training. During the 1960s, secondary schools began to take on more of a role of a preparatory phase for college, and that this change could have been perceived as causing the accelerating exodus of Appalachian youth from the region as they became more educated (Shaw et al., 2004). This shift in high school curriculum provided less regionally relevant education for students. Shaw et al. explain that national education objectives for all levels of schools were proposed and implemented throughout Appalachia during the 1980s and 1990s.

Shaw et al. (2004) show that secondary and postsecondary graduation rates still lag behind the United States at large. The story within the data is that high school graduation rates as a percentage of difference have decreased, meaning that Appalachia should at some point catch up. College graduation rates are increasing but at a lower overall percentage rate compared to the outside, meaning that Appalachia is actually losing the postsecondary educational race.

Appalachian Studies

When Helen Lewis launched what she called the Appalachian Studies Program at Clinch Valley College in 1969, she felt it was "most appropriate for a school located in the Southern Appalachians to provide knowledge and understanding of poverty, resources, and the social and political problems behind Appalachia’s problems" (Lewis, 1969, p 1). She stated that exploitation had left Appalachian people poor, powerless, and uneducated to their own plight and that educational institutions, rather than supporting the status quo, should educate for a creative change. The mission of a school should be to design a curriculum that provides problem solving skills. Her suggestion was that it
should include at the very least information and technical skills concerning health care, legal advocacy, community development, and the analysis of social and economic conditions.

Lewis based her view of a liberatory education as defined in the works of Paulo Freire and his seminal work *Pedagogy of the Oppressed*. (Lewis, 1981) She saw the results of her work as the concept of liberatory education spread around the region. Lewis found a growing pride among her students in the idea of being Appalachian, concerning the unification of the region, and in developing a more sophisticated analysis of the social and economic condition of the region. She also saw some problems, chief among them the objectification of Appalachian life from the real world into an academic course (Lewis, 1981).

Freire’s idea of critical consciousness creating receptiveness to new ideas, leading to transformation of society rather than continuing conformity to existing norms or systems was seen by Lewis as a mechanism for change in Appalachia. This stage of critical consciousness is obtained through first achieving understanding of the system its rhetoric, myths, and contradictions in which we are immersed. Lewis then cautions that we must not get tied up in a romantic nostalgia for the past or dwell on problems and assign blame; rather, she promoted the challenge of actually transforming society.

Lewis stated that research is “basically radical, action oriented and conducive to change,” but university research and government-funded research are “curbed, controlled, and co-opted” (Lewis, 1981, pp. 9-10). She recommends participatory action research (PAR) as an alternative approach to social investigation. According to Lewis, PAR
involves; subjective commitment, identification with the people, rejection of neutrality, a close involvement with the people, a problem centered research approach, and the creation of an educative process within the research paradigm. It is within the structure of PAR that Lewis sees the home of Appalachian studies, wherein through research and education Appalachian people might acquire “conscientization” or the critical awareness to transform their own society (Lewis, 1981).

Lewis also pointed out fallacies in the academic approach to development. Rational analysis is the basis for most developmental thinking. It reflects a negative view in its revelation of hegemonic forces while not providing a means for moving beyond the powerlessness created by that analysis. Rational analysis is overly scientific in its fragmentation of social systems, which must be viewed more holistically, and finally it is couched in elitist language which lacks the insightful vocabulary of common language. (Lewis, 1981, p. 15)

As Lewis (1981) also states:

Liberals and radicals often construct and communicate analysis and strategies based solely on rationality—which is insensitive to the role of symbols in everyday experience. They fail to take seriously the power of symbols such as kinship, nation, and religion. These need to be used for social justice. (p.16)

Lewis sees Appalachian studies as a chance to immerse the intellectual in the real world to create “organic intellectuals” who can undertake transformative action.
Theoretical Framework

Environmental Education

Environmental education is seen as an important factor in liberatory education. Clover (2003) speaks to the commoditization of human value and that of the natural world, writing that “as people have consumed more and demanded a higher standard of living the natural world is viewed only in terms of production” (p. 8). Clover also asserts that the globalization process has accelerated this commoditization process and sees environmental education as a “counter hegemonic action” to help overcome power inequities in racial, class, and gender bias. She calls for environmental educators to become active within social movement structures and to create a “symbiotic educational opportunity” for teachers and learners (p. 13). Clover concludes that adding the critical lens of environmental education to those of race, gender, and class will in the end produce a stronger democratic voice around the world.

Hill & Johnston (2003) have defined different ways of thinking about the natural world. They start with “deep ecology,” which they define as the recognition of the “fundamental interdependence of all phenomena.” Deep ecology, according to Hill & Johnston, is a postmodernist approach to the human role in the natural world that stresses the value of all life equally. Ecological feminism critiques the exploitive practices of Western culture as patriarchal and hierarchical. Social ecology, according to Hill & Johnston, explains the ecological crisis as a result of authoritarian social structure embedded in capitalism. They define the idea of environmental sustainability as humanity learning to live within a harmonious relationship with the natural world.
Hill & Johnston (2003) investigated the relationship between metaphor, language and spirituality. They quote Moore (1994), who states that “Our modern feelings of loneliness come from our estrangement from the natural world” (p. 22).

They stated that:

…as we are required to adapt in a changing world this loneliness becomes even more intensified, but that taking responsibility for preservation and restoration of the natural world is a spiritual act that can rejuvenate our humanity and dispel that loneliness. (pp. 22-23)

They also tie action and education together, stating that “Realizing what must change… is not enough. We must act…” (p. 23). In closing, Hill & Johnston see environmental education as a means for helping students to make sense of the world and as a map for acting responsibly to correct wrongs.

Hill (2003) speaks to the concept of environmental justice, which he defines as equitable protection from environmental impacts for all races, ethnicities, and socioeconomic groups. He sees environmental education as assisting adults in remedying inequitable impacts, listing the destruction wrought by extraction industries, along with the industrial release of toxic wastes as examples of these kinds of inequitable impacts. He sees environmental education as encouraging community organizing which can counteract the fragmentation and dehumanization that is often seen in impacted areas. He also see environmental justice as counter to globalization to what he terms as “Turbo-capitalism” or the excesses by private enterprise that have been uncoupled from government regulation on a national level (p. 33). Hill presents a new definition for that
environment combining the environment of families and communities with “nature;” he feels that a holistic view of the constructed, cultural, and natural environment is required (p. 34).

St. Clair (2003) approaches literacy as a subject that is “critical and active, focused on making a difference” (p. 69). Therefore, he defines environmental literacy as understanding the environment and taking action to preserve, restore, and improve the health of environmental systems. St. Clair starts with the environment as the basis of all literacy and places that environmental awareness at the center of education and citizenship. St. Clair wishes to counteract the fundamental alienation of the human from the natural world. According to him, this alienation is the basis of Western scientific reasoning, and we should look at the “connective way” life has evolved, which St. Clair characterizes as an “eco-feminist perspective” (p. 74). St. Clair reasons that social movement may be enhanced by education, but education is not sufficient without people becoming aware of the importance of the cause. St. Clair concludes that literacy involves the “adaptation of social practices” (p. 77). If environmental education is a required for truly liberatory education to occur, then it would seem to follow that it is a required component for liberatory and democratic Appalachian studies. This begs the question of how a truly liberatory education can exist without the holistic environmental view. We are also left with the premise that the only truly democratic and just pedagogy is one based in ecological education.

Orr (2002) in addressing the idea of environmental education advances looking at how the design of infrastructure affects the human condition. He stated:
How and how intelligently we weave the human presence into the natural world will reduce or intensify other problems having to do with ethnic conflicts, economies, hunger, political stability, health, and human happiness. (p.15)

Orr argues that the default setting for our technology-backed industrial paradigm is a “regnant faith” that science and technology will deliver all of our needs and desires without requiring any significant changes to our way of life (p.16). Orr believes that we will need to make significant changes to meet the needs of a worldwide civilization and states the following design criteria as part of that ecological design parameter:

1. Farms that work like forests and prairies
2. Buildings that accrue natural capital
3. Wastewater systems that work like wetlands
4. Materials that mimic plants and animals
5. Industries that work like ecosystems
6. Products that become part of the cycles resembling natural material flows. (p. 22)

In essence he calls for a system designs that mimic natural processes rather than removing them from the existing biological systems.

Orr (2004) addresses the education system’s role in promulgating educational myths. He believes the first myth is the idea that ignorance is a solvable problem. He believes that any new knowledge about the world opens up vast areas of ignorance about the outcomes of the application of that knowledge. He believes that higher education believes in the mission of domination of the earth and that knowledge and technology allow that to occur. Orr also attacks the view that the modern idea of knowledge is
progressive in its own right, that information equates to wisdom and knowledge, which in turn equates to an increase in human “goodness” (p. 10).

The idea of restoration of the whole idea from a fragmented examination is another myth according to Orr. The fact that education is divided into many disciplines that are sealed from one another results, in Orr’s opinion, in students not understanding broad implications of things. The last two myths of education according to Orr are the idea that education’s purpose is to equip the individual for upward mobility and individual success at the detriment to others. Secondly, that our culture (Western technological culture) represents the pinnacle of human achievement.

Orr offers six goals of education:

1. All education is environmental education. By what is included or excluded students are taught they are part of the natural world or apart from it.
2. The goal of education is not the mastery of knowledge but the mastery of one’s self.
3. Knowledge carries with it responsibility to see that it is used well in the world.
4. We cannot say we know something until we understand the effects of that knowledge.
5. The institution must reflect the ideals it espouses in its operations.
6. The way in which learning occurs is as important as the content. (pp.13-14)

Orr’s goals of education are in direct opposition to what he sees as the myths of modern education.
Orr also ties together place and environmental education. He sees the importance of place in our lives, for we are in his words “inescapably place-centric creatures” (p. 161). He also sees the connection between place and the environmental movement, which he says grew out of the idea of preservation of unique places. Orr further implies that problems that occur all over the world have place-based solutions and that a purely global focus blurs the local. He also writes that the preservation of place is essential to the preservation of the earth due to the interconnectedness and that the complexity of the whole may in fact always evade our control.

Examining further the ideas of environmental education and ecological justice, Bowers (2001) states that:

The identifying characteristics of an ecologically informed approach would start with learning the speciation in the bioregion, along with an awareness of how the experience of place has been narrated by previous generations, which constitutes a more experiential approach. (p.257)

He allows that many institutions present this approach, but notes that those same institutions are simultaneously promoting what he terms a “high status form of knowledge which contributes to the “…consumer, technologically oriented culture which has brought about an adverse impact on the same environment” (p.257).

Bowers (2001) further states that reforming educational institutions (toward an environmental ethic) is difficult because the ideas and values of the institutions are seen as “the basis of a liberal, modern and progressive society” and that community life is seen as conservative, undeveloped and uneducated, he asserts that “These assumptions view
change as progressive in nature, intelligence and moral judgment as attributes of the autonomous individual, technology as a culturally neutral tool, success and development as economic in nature” (p.258). Bowers goes on to write that “Students need to understand how the metaphorical nature of language reproduces earlier forms of cultural intelligence” (p.259) to understand how “meta-schema” underlie our view of the world and how language “encodes the moral templates of the culture” (p. 262). Bowers proposes that:

students should be exposed to a more complex understanding of tradition if they are to become critically aware of ecologically destructive cultural patterns and to be able to recognize and help revitalize the non-commoditized aspects of community life. (p.262)

Bowers (2002) attacks “The failure of scientific studies of degraded ecosystems to create doubt concerning unending material progress” (p. 21). He adds: “Eco-justice is based on root metaphors that are challenged by both the ideologues of the industrial revolution and the western enlightenment project” (p. 22) and writes” Root metaphors underlying modernity include linear progress, evolution, economic, and the autonomous individual” (p. 22). So Bowers requires changing some basic assumptions about the nature of reality in his approach to environmental education. He attacks the “Enlightenment Project” as being based in thinking which at least inhibits learning, if it is not in complete opposition to an ecologically informed education. Bowers (2002) also takes “critical pedagogy” to task. Stating that the “practice of critical pedagogy does not lead to individual emancipation and social justice; rather it reinforces a subjectively centered individualism
required by the consumer technologically dependent society” (p. 23). Bowers writes: “The community centered practices that kept the individual from becoming dependent upon what could be produced through an industrial process, are also the practices that Freire and other critical pedagogy theorists’ view as the source of oppression and thus are to be overturned” (p. 25). Bowers sees critical pedagogy as a continuation of consumerism, albeit a socially just consumerism that does not take into consideration the impact of “environmentally unsustainable practices” in their theory of “continual and universal emancipation” (p. 27). Bowers also points out that in terms of environmental racism that those same marginalized groups are the most affected by toxic wastes and industrial sites. In trying to formulate an environmentally sensitive aware education Bowers states the following as a balanced approach:

1. Recovery of non-commoditized aspects of community. The drive to commoditize and create new markets is a key factor in production, product obsolescence, misuse, and environmental contamination. More is required than just critical awareness.

2. Students learning ecological design principles and how to apply them to a particular bioregion.

3. Reaching a balance between self sufficiency and consumerism, and learning about non-commoditized traditions of ethnic minorities, cultural groups, many of which have survived economic and political repression by their ability to carry forward intergenerational knowledge that enabled them to be less dependent on consumerism.

(p.31)
Bowers (2004) addresses sustainability in local cultural groups, categorically stating that “sustainable development is always situated in a particular culture and bioregional setting” (p. 200). This idea of bioregion or place and its ties to culture, education and sustainable development are issues I wish to return to latter.

Spring (2004) stated, “I am convinced along with many others that environmental education is the most radical pedagogy shaping global society” (p. 100). Spring goes on to clarify that radical means that environmental education challenges what is meant by “good” in society and refers to the replacement of the human-centric focus of industrial expansion and consumerism by a broader focus based in the biosphere. Spring states that environmental education is “radical in form because it rejects the idea of schooling in separate disciplines” and calls for a “holistic approach to learning” (p. 101). Spring refers to the fact that the Russian scientist Vladimir Vernadsky’s developed a holistic framework which “makes it impossible to separate life from its surrounding environment”. Spring argues that acceptance of Vernadsky’s paradigm results in seeing “the protection of the total environment of the planet as necessary for the sustaining of human life” (p. 102). Spring defines holism as having two meanings, the first as a “biosphere paradigm” in which “all human social issues and environmental conditions are intertwined” and the second definition which explicates the approach of “all areas of human knowledge as a whole versus the idea of knowledge as separate disciplines” (p. 105).

Spring speaks to what he terms as deferring approaches to the environmental ethic, such as speciesism, naturalism, and Deep Ecology. He also defines humanism and
sustainability, in the argument concerning sustainability. He quotes the 1992 United Nations Conference on Environment and Development as “development that meets the needs of the present without compromising the ability of future generations to meet their own needs” (p. 113). He points out that in 1997 the United Nations Education Scientific and Cultural Organization (UNESCO) adopted a definition that added the phrase of “on improving the quality of life for all especially of the poor and deprived, within the carrying capacity of supporting ecosystems” (p. 113) thereby expanding sustainable development into the field of social justice.

Spring quotes the director of Instituto Paulo Freire as advocating an eco-pedagogy. This pedagogy breaks with the critical pedagogy of Paulo Freire in that it considers that earlier pedagogy as being anthropocentric (humanity centered) and that “broadening the outlook from man to planet…and for a new ethical and social reference” (p. 133) is a proper direction. Spring points out that the institute along with UNESCO hosted a symposium in 1999 and a forum the following year. The results were a document entitled the Eco-pedagogy Charter. This charter, Spring points out, contained a “major change in Freirian thinking and a radical approach to changing the industrial world” (p. 133). In Freirian terms it expands the definition of biophilic to the entire biosphere and it incorporates the ideas of Deep Ecology (p. 133).

Spring (2004) analyses Orr and Bowers and points out that while differing on some ideas about achieving the best educational outcomes, they both agree on opposition to what Spring terms “the industrial paradigm” (p. 134). This paradigm represents consumerism and the belief that technology will provide human beings with the “good
life,” Spring asserts that both educators’ arguments are based on “the internal problems of the industrial paradigm and the destructiveness of the paradigm to the biosphere” (p. 135). Spring sees Bowers and Orr’s perspectives as having a goal of environmental education leading students to interpret events through the “paradigm of the biosphere concept” and through a consideration of traditional knowledge, being aware of the “conflicts with modernity” (p. 137). Spring concludes that a problem-solving education rejects the “industrial and consumerist paradigms” that have created many of the existing problems needing a shift to a “biospherical paradigm” (p. 181).

One can conclude that environmental education represents more than just a technological and scientific study of the physical world. Environmental education according to many authors is more about a way of thinking or examining the world, as Spring (2004) calls it a biosphere paradigm. The idea of environmental education challenging the existing patterns of education is radical if as Orr and Bowers argue it questions technology and the “Enlightenment Project” as basal truths. Perhaps what I have come away with as most valuable from my review of this literature is the question whether environmental education should become the lens through which Appalachian studies is viewed. Perhaps a more nuanced picture of the regional culture would emerge through the “biosphere” versus the modernist approach of conventional analysis.

Environmental Education and Place

Wendell Berry (1977) in his critical dialogue about place speaks to the heart of Appalachia:
that we and our country create one another, depend on one another, are literally parts of one another…therefore our culture must be our response to our place, our
culture and place are images of each other and inseparable. (p. 22)

Berry ties culture, place, and self together in a Gordian knot that ironically can only be undone by destroying the elements. This critical understanding of place requires looking at the effects of the greater world in its machinations on the local. Another view of pedagogy for Appalachia is a synthesis proposed by Grunewald (2003) which brings together critical pedagogy and place-based pedagogy. He identifies a critical pedagogy of place as having two modes (a) reinhabitation identifying, recovering, and creating material spaces and places that teach us how to live well in our total environments; and (b) decolonization, identifying and changing ways of thinking that injure and exploit other people and places” (Grunewald, 2003, p. 9).

Gruenwald (2003) also lists several practices that could be used to create a critical pedagogy of place. These include using studies of the local culture and local ecology, engaging in community problem solving, connecting students to businesses through local internships, connecting students to community decision making, and examining student experiences through the lens of cultural and ecological politics. Environmental education appreciates and honors concepts of subsistence and sustainability such as those found in Appalachia. However, due to Appalachia’s poverty, many environmental damages due to industrial practices are ignored. Lewis points out, even the last two social support mechanisms of family and church often bow to the “economic realities” (Lewis et al.,
Environmental education must focus on bringing awareness of the true costs of economic realities.

Appalachia, despite having had vast natural resources, is still poor, and the ARC states that in 1990 the poverty rate in central Appalachia exceeded 27%, the fact that this area of Appalachia is the richest in natural resources (ARC, 2007; Gaventa, 1991; Kublawi, 1991). This area has also experienced the worst of the mining impacts such as mountaintop removal, flash flooding, and, to add insult to injury, tree death from acid rain from coal burning electric plants (Ayers, 1998; Shabecoff, 1998; Stockman, 2004). All these practices violate sustainable and environmental concerns and are allowed in the name of development and economic needs. They constitute some costs of coal generation for electrical power in the United States and have provided little or no sustainable development for the people of Appalachia, whose environment has been and is still being sacrificed.

I think Appalachia is best defined from the concept of place. Berry sees all culture emerging from place. Culture is about the human understanding of a bioregion or place, as Bowers states, yielding the only sustainable use of a particular place. The Appalachian culture emerged from blending the Native American culture, which itself was highly placed based, with the European cultural ideas that survived the test of the frontier. This culture has survived to today in remnants, such as Halperin’s (1991) “Kentucky way” or Lewis et al. (1978) description of “one leg in Appalachia and one leg in the modern society,” rather than a dominant cultural idiom. However one views it, as true, defined Appalachian culture, or as Batteau (1998) writes, the moniker placed upon people of the
region by outsiders, the basis of the difference emerges from place. Understanding the place called Appalachia in its many parts necessitates interrogating the environmental education model of holism, bioregionalism, and cultural respect. Understanding the ravages heaped upon Appalachian people requires the lens of ecological justice and environmental justice concepts developed from environmental education. Finally, to design and develop sustainable and culturally sensitive projects requires that environmental education be part of the training for a regional orthodoxy for individuals, industry and government.
Chapter Three: Methodology

Design

This study adopted a qualitative approach. The study explored education and development in Appalachia through the lens of environmental education. The approach is appropriate because the study was of a complex nature as it is looking at interactive human systems, the very nature of which defines complexity. The theoretical framework of environmental education, which is has at its heart the paradigm of the biosphere, influenced my choice of design. I saw naturalistic inquiry as the design that would yield these results. Naturalistic inquiry studies real-world situations as they unfold naturally; it also lacks predetermined constraints on outcomes and is characterized by openness to whatever emerges (Patton, 1990). Naturalistic inquiry may include a holistic perspective that attempts to understand the whole phenomenon under study as a complex system that is more than the sum of its parts (Patton, 1990). Its focus is on those complexities and interdependencies which qualitative methodologists believe cannot be meaningfully reduced to a few discrete variables (Lincoln & Guba, 1985; Patton, 1990). This focus on complexity corroborates the environmental approach which also is holistic. I used this methodology in the interviews and tried to allow my participants to direct the conversation while answering a set of predetermined broad questions.

Site Selection

The Central Appalachian community is the site of this study. This area is large and is not considered as being uniform in its problems. However, it does, as demonstrated
in the literature review, have commonality in the lack of developmental and educational progress when compared the United States at large (ARC, 2007; Hempel, 2004).

Figure 1. ARC Designated Appalachian Region
Participant Selection

I used purposeful sampling to determine participants. Purposeful sampling, as defined by Patton (1990), refers to “information-rich cases” that can provide a great deal of information about the issues (p. 169). I interviewed participants who have studied the region academically; I also interviewed participants who have worked in environmental education and environmental studies in the region. These people are most capable of bringing professional and scholarly opinions to my research questions. Lincoln and Guba (1985) state that a naturalistic inquirer begins with the assumption that context is critical; therefore, purposeful sampling will produce the best representation of a phenomenon.

From Glesne (2006) and Patton (1990) comes the idea that purposeful sampling has several divisions. I see the Appalachian scholar group as a homogeneous sampling, but the inclusion of environmentally trained participants introduces variation to the sampling. My use of an Appalachian scholar who also uses environmental studies in the analysis allows for an extreme case that includes both (Glesne, 2006). I also interviewed a graduate student who studies the Appalachian region.

Data Collection Procedure

I submitted my research questions to the Institutional Review Board and received permission to conduct my research. I traveled to a regional institution which features an Appalachian Studies Center and program. A friend of mine was teaching a summer program there and introduced me to Robert, the center’s director. Robert sat down with me in his office and we conducted a very informative interview. While at the institution I called a former director of the institution, John, and we met for coffee. John quizzed me
on my project and stated that he would be happy to help. We agreed to meet at a later date and I returned to Athens. I then sent the tape of my interview with Robert to a professional transcription service and received the transcript a few weeks later. I wanted to read the transcript before conducting any further interviews to determine if the questions and my interviewing skills were effective.

I arranged to interview John and also set up an appointment to interview Peter, a former Appalachian Studies Center director and currently a professor of Appalachian History at another regional institution. My daughter had been a student of this award winning author on Appalachia while she was working on her master’s degree. We met in his office and conducted an in-depth interview. After the interview Peter suggested that I interview his spouse, Ruth, who heads up a state agency on environmental education. I traveled to meet with John the next day and we met in his home for the interview. John was very informative and quite opinionated on the research questions. I returned to Athens and sent the interview tapes off for transcription.

Ruth and I were not able to arrange a face-to-face interview due to her very busy schedule, so we set up a phone interview which I taped. She was very informative and knowledgeable concerning the efforts of her state to provide environmental education certification for public school teachers and the various programs her state was providing.

I had met Susan, my next participant, previously because she was an acquaintance of my daughter and also one of Peter’s graduate students. Susan was working in Southern Georgia at the time so we also conducted the interview over the telephone. Susan grew up in North Carolina and brought a different view of Appalachia to the mix. My next
interview was with Jacob. Jacob is an environmental restoration specialist and has worked on projects across the United States. He has also worked extensively in Appalachia on restoration projects. Jacob and I went to undergraduate school together and have maintained a profession and personal relationship since.

My last interview was with Jeanie, a Professor of English at another regional institution, where she incorporates Appalachian culture into her teaching. We met at an Appalachian Studies Association Conference where she was presenting. I approached her for an interview at the ASA conference in 2009 and she agreed. Jeanie is a writer and musician and her interview reflects her talents.

I interviewed the participants to collect my data using a set of semiformal predetermined questions. The interview process was taped to insure accuracy. I followed the format of the questions but also had follow-up questions that varied from participant to participant. I tried to allow the interviews to flow to insure the participants had a chance to speak their minds. I found the process to be very rewarding and from my first interview found data directing the process.

Methods and Approaches

Patton (1990) states that the qualitative interviewing approach has several forms including informal conversational interviews, the interview guide approach, the standard open-ended interview, and the closed-fixed response interview. The informal conversational interview has the advantage in that the questions emerge from the immediate context; the questions are relevant and salient. It suffers when comparing across multiple interviews since different questions occur with different people. The
interview guide approach enables the interviewer to specify in advance the topics and issues to be covered. It produces a systematic outline for data collection. Since the topics are prepared, certain “important and salient topics” may be “inadvertently omitted” using this method (Patton, 1990, pp. 283-284).

The standardized open-ended interview uses questions where the exact wording and sequence of questions are determined in advance. By answering the same questions, respondents increase the comparability of responses among multiple respondents. There is a great deal less flexibility in relating the interview to particular individuals (Patton, 1990). Closed-fixed response interviews have the questions and response categories predetermined. Data analysis is simple, but respondents must fit their experiences and feelings into the researcher’s categories and there the information is quite limited (Lincoln & Guba, 1985; Patton, 1990; Glesne, 2006).

1. Interviewee selection: Potential participants were identified by the researcher based on the criterion as described in the section on participant selection.

2. Setting up the interview: Once the potential participants were identified, they were contacted by phone and or e-mail, and we selected both a time and place for the interview. I briefed them on the purpose of the study, reviewed the informed consent process, and obtained an informed consent form from each participant. I explained that their response would be held in the strictest confidence, and the record of the interview would be destroyed after the study is completed.
3. Interview: I obtained biographical data concerning the respondent. This process set the stage for more in-depth questions and allowed a rapport to develop between the respondent and me.

4. Interview: I asked the respondent a series of semi-structured questions (see Appendix A) concerning their understanding of and views on Appalachian and environmental education. I interviewed my subjects using a combination of the interview guide approach and follow-ups, which allowed participants to voice any new direction or thoughts about the subject. I recorded the interviews to limit errors and took field notes during the interviews.

Observational and Interviewing schedule
The interview guide consisted of a demographic section and a content area. The content area has 12 semi-structured questions concerning reflecting the research questions. The areas covered include but not limited to the following: demographic data, perception on place, sustainability, role of Appalachian studies, development, environmental education and environmental justice. (See appendix A).

The Researcher
I was born and raised in Appalachian Ohio. My family has roots in the mountains of Virginia and Kentucky going back to pre-Revolutionary war days. I grew up within the culture without realizing that I was any different from other Americans. I observed more difference in values than anything else as I moved into the outside world, something that I thought I could manage to overcome. I left home to pursue a career and education not realizing the transformations that would occur in my worldview.
I obtained a college degree in Environmental Studies after service in the military. I spent most of my working adult life as a problem solver, as a consultant and manager for a variety of environmental, engineering, and construction projects. I found myself searching for a more spiritual challenge, changed directions, and immersed myself in the world of education. I graduated with a master’s degree in Cultural Studies in Education, and I am currently working on a doctorial degree in the same discipline.

My qualifications beyond my early career work include extensive course work in cultural studies along with course work in educational research, teacher education, social work, and developmental studies. I have also read in depth on the subject of Appalachia and its people as preparation for this dissertation. Although my background as a native son gives me an advantage in understanding the culture, it also creates a problem concerning my objectivity about the subject. I attempted to compensate for any subjectivity on my part by using rigorous methods in my data collection and analysis as well as the triangulation of my data through multiple source interviews. Conscious of these possible biases I attempted to keep them in check.

I tape-recorded all of my interviews and had them transcribed independently. Using multiple subjects from different locations may act to validate the data. Finally as Glesne (2006) points out, reflection upon the researcher’s own subjectivity, as well as on how the research is to be used, is very important to maintain validity of the research.

**Analyses and Interpretation of Data**

The final stage of the study is an analysis using a qualitative methodology. The methodology of analysis, like the methodology of the inquiry, can vary. Patton (1990)
states “because each qualitative study is unique the analytical approach will be unique” (p. 372). He further lists strategies for analyzing observations including organizing those observations by “chronology, key events, settings, people, processes, and issues” (p. 373). Glesne (2006) suggests analyzing data simultaneously with data collection through the use of memos, analytic files, and rudimentary coding.

According to Patton (1990) inductive analysis is usually used rather than deductive. Patterns, themes, and categories of analysis come from the data; they emerge out of the data rather than being imposed on them prior to data collection and analysis. Reviewing inductive data analysis, Lincoln & Guba (1985) state that it emerges from “making sense” of the data. They suggest that unitizing and categorizing the data will sort out the data through a process of constant comparison.

I used an inductive analysis to separate coding schemes and, ultimately, categories from the data. These groupings allowed me to ascertain any emergent themes from the data. Utilizing these themes, I developed an overarching picture of what the data represent and compared it to my thesis. I used editing software to allow word analysis of the data. It enables the categorizing of large amounts of data in a fairly clear manner. Coding schemes were represented by words or phrases in the data that are repetitive and viewed as key to understanding the meanings being presented by the respondents both at face value and in any hidden themes.

**Reflections from the Field**

I interviewed a selected group of participants who represented a knowledgeable group of individuals concerning the Appalachian region. I used a standardized set of
questions to initiate conversations but allowed the participants to elaborate on their opinions. This allowed complexity to emerge from their narratives. While the themes that emerged were grounded in the initial questions they also were colorful and definitive as each participant related his or her perspectives. I am an insider to the culture and allowing complexity to emerge helped to guard against any preconceived or prejudicial views on my part. This process proved to be very fruitful; I was able to elicit responses that were deep in their consideration of the problems raised and in their expression of opinions.
Chapter Four: Analysis of Data

Introduction

This chapter discusses the data in the light of the literature as well as the theoretical framework. First, I will discuss an emerging theme on Appalachian culture. Then the discussion will follow each research question in a sequential order. The first research question asks about the relationship between Appalachian studies and the region. The second question queries place and Appalachia. The third research question tries to determine if environmental education needs to be included in the study of Appalachia. Question four asks about environmental justice and its relation to Appalachia. Development in Appalachia is the subject of the fifth question. Finally I seek to uncover the participant’s understanding of sustainability and how to implement the idea of sustainability in Appalachia.

Appalachian culture and Appalachian studies are deeply related by the nature of how the regional image is formed by the respondents and how they then relate to the question of Appalachian culture and Appalachian studies. Place, environmental education and environmental justice are also related in their fundamental basis in the environment. Finally, I see a connection between development and sustainability in how we proceed in the future. The participants in the study were very forthcoming and provided extremely rich responses during the interview process. I have attempted to allow the responses to be seen in that light, and, although I have not exhausted the material in these responses, I have attempted to deal with the large topics that emerged.
Appalachian Culture

Appalachia and its culture, while certainly important to my study, were not featured directly as subjects for questioning. I had not originally framed questions concerning these topics for two prominent reasons. First I was trying to avoid the conflict of the Appalachian culture wars, the divide among scholars concerning Appalachian culture as reality versus the construction of “Appalachian culture.” Second, I did not see the dialogue as relevant to environmental education, education, or development in that these process where not dependent upon the existence or lack of an independent Appalachian culture. Nevertheless, the participants while answering other questions expressed opinions about Appalachia, its people and culture. Admittedly, most of my participants function as educators and it may be that they could not relinquish the “teachable” moment. The tension between what is perceived as the more Universalist type of Appalachian culture and the more local culture is evident in the responses. On one end of the spectrum is Robert who is extremely cautious about the existence of Appalachian culture. Susan and Ruth see Appalachia as a more modern culture. Peter and John see the existence of an older Appalachian cultural framework in the new Appalachia. Jacob is of the opinion that the old Appalachia still holds sway and sees a great deal of negative forces in the region because of it.

Expressing the more cautious Appalachian cultural side Robert began by saying: “Out of the 45 countries I’ve been to I’ve always encountered an Appalachia in that country…” In speaking of his work with outmigration of the region, he noted:
I don’t know that there would be much of Appalachian identity was it not for migration that let millions of people out of the region. I just finished a little research piece on people who are asked by the Census Bureau to give their ethnic background and they say Appalachian. But the only people who say that, and there are numbers of people who do, are those who are living outside of the region. So that proves that in leaving a place you grow more firmly attached to it and think more acutely about it. (Robert, personal communication, July 14, 2008)

Robert’s concerns were more directed to the avoidance of stereotypes concerning people living in Appalachia. Expressing his view on cultural knowledge, he stated:

There is an incredible knowledge. But if I went to another part of Appalachia there would be slightly different knowledge and slightly different usage, or if we were talking about Native Americans in the region there would still be differences. (Robert, personal communication, July 14, 2008)

The origins of the cultural constructionist view came out of concerns about the “culture of poverty” theories and the subsequent stereotyping of Appalachians. The lumping together of Appalachia as some contiguous region is seen by many as a cultural biasing rather than a legitimate viewpoint (Batteau, 1991).

Others see an Appalachia that is expressing a different culture than a more agrarian one that once existed; still it is one which was more regional in nature. As Peter said:
The problematic thing for me has been to see that worldview diminished in the region in recent decades. On the one hand, the spiritual side of me is appalled at the poverty, the injustice that has been part of the Appalachian experience. So that’s not fair but I also recognize that in the process over the last five decades of addressing some of those economic injustices, we don’t have the economic exchange today that we had in the 1950s. We have a new Appalachia, as I suggested [in the last chapter of his latest book], and it’s not totally eliminated these inequalities but it’s certainly a lot better than what used to be. But we’ve also lost so much culturally, environmentally, socially that the new Appalachia has cost us a lot as people, as a culture. (Peter, personal communication, October 20, 2008)

Peter sees Appalachia as a repository for a culture. Another take on the same theme comes from John who stated:

The old humility’s gone because of the electronic age. Look at McCain and Obama. You have to sell yourself as a commodity…the old Calvinists would never do that. The old folks would say: “I’m just a farmer. I’m just a country boy. I’m this, that, and the other” but there was a sense of modesty. There’s a sense of personalism relating in a very personal way which also gets into where you are from, and who are your people and how are you related to so-and-so. That old personalism and everything; I see that is gradually disappearing. (John, personal communication, October 21, 2008)
This view of John’s corresponds with that of Peter’s; to both of them there appeared to be an older cultural norm that has changed and in fact was a more regional culture.

Ruth (personal communication, October 28, 2008) sees today’s Appalachia as reflecting more modern sensibilities. Her sense is that: “Kids in East Kentucky are just like kids in Lexington or Lora Valley. They just sit in their houses and play video games; they do not go out in any kind of numbers in the way children used to and that’s a major national issue.” Susan sees Appalachia as embroiled in class conflict. She states:

When, I graduated from high school in 1986, I kind of felt like an outsider in my own community, because a lot of kids in the high school were from working, blue-collar families who worked at the mill and at DuPont, but there was still very much that social stratification. The rich kids, whose parents were the paper mill managers, or DuPont managers, or doctors, lawyers, that sort of stuff, there was still that hierarchy, you know. I noticed that there was very much this discrepancy between how you lived and where you came from, and what the background story that you gave other people. (Susan, personal communication, February 11, 2009)

So coming from two different views these participants are still equating Appalachia to the modern world, different in setting but culturally much the same. I believe much of the conflict over this discussion of culture is based in class conflict. The “old time way” is viewed as associated with poverty by many within the region. Modernity is viewed as a more middle-class way of life. Consequentially, Appalachian cultural ways are seen as lower class (Halperin, 1991; Reck et al., 1993).

Jacob sees Appalachian culture as historically based. As he stated:
A lot of people that came were Scots or Irish, who were second-class citizens to start with… they were brought in as indentured servants, they were treated badly because of their religion. A lot of the Scots-Irish that had been settled by the British ended up being settled here that were, you know, settled in Ireland… or got out of there because of all the strife and ended up over here. And these were religious fundamentalists and, frankly, warlike people. Hostile, mean, fighting people to start with, individuals, seemed to be a component of the class that came. They didn’t send the sissies. I think, this group of people that are a higher percentage than normal ended up out into the wilderness, and the cultures they brought with them at the time… had gone a long way in making what the Appalachian culture is now. (Jacob, personal communication, May 8, 2009)

Jacob’s views may be the best representation of the “gene theory” which was espoused Weller and to some extent Caudill (Caudill, 1965; Weller, 1966) This view is largely suspect in academia but is I think commonly held by many Americans outside the region. He also sees the Appalachia of today as being different but this difference being due to outmigration and industrialization:

The kinds of things that happened during the industrialization era were to acquire a submissive workforce. That is [people who were] not too imaginative; to realize the hazards involved with the things you had to do. They had to take orders, and they had to do dangerous shit. Now, people that were smart enough to realize the dangers migrated out. And the people that were too strong willed to submit to discussions, either got left on their own, or got weaned out through a series of
conflicts that occurred. That’s how many of my relatives were killed. And [through] serious bloody conflicts that occurred over decades that are not fully reported in our history – well, at least [not] what they teach you in school. Well, that ought to be part of the history; you know the environmental discussion of coal wars ought to be part of history training. People ought to know about that. They shouldn’t have to find out about it from watching a damn movie. It really happened. Hundreds of people, thousands of people died in those “coal wars.” The bottom line is that the big companies won they managed to extract the resources, and in doing so, drove away the better part of the population. The smart ones kept leaving. The strong ones kept leaving. And the weak and submissive, stayed. You know, maybe physically strong in their bodies, because they [the bosses] wanted good mules. (Jacob, personal communication, May 8, 2009)

Jacob is in a way characterizing the current residents of Appalachia in very derogatory stereotypical terms. I would suggest this is indicative of the class conflict that is still apparent in Appalachia. People who are still living in the region (Central Appalachia) are still being characterized as stupid, weak, and submissive. Their failure to live up to middle-class standards of modernity is seen as Appalachian, lower class, stupid, lazy, and, by many, as immoral (Eller, 2008).

Summation

I see the conflict about culture as misdirected, either taking a more postmodern view of cultural construction or the cultural reality view. Appalachia is and has been a
site of class warfare, often, as Jacob puts it, “a bloody one.” If we are to improve education and have economic development, perhaps we need to account for this fact and adapt our prescriptions around it. Environmental education may just make this a possibility. The themes that emerged from the narratives are the conflict about the existence of an Appalachian cultural reality and in turn whether or not Appalachia is a unique place of representative of a common human condition. Another theme is also the conflict concerning how modern Appalachia really is.

Appalachian Studies

Helen Lewis writes that it is “most appropriate for a school located in the Southern Appalachians to provide knowledge and understanding of poverty, resources, and the social, and political problems behind Appalachia’s problems” (Lewis, 1969, p 1).

Research question 1 focused on Appalachian Studies and was intended to examine how the discipline relates to the Appalachian region. I believe that the view of the construction of Appalachia colored the responses of my participants about Appalachian studies. Robert repeated his caution about stereotyping and universalizing Appalachia as he spoke about Appalachian studies. He spoke of the use of Appalachian studies to effect positive changes in the region. Peter sees Appalachian studies as a possible medium for change but believes the mission has fallen short. Although a believer in Appalachian culture, John sees a universalist treatment in Appalachian studies that he finds fault with and thinks a more localized approach is warranted. Susan also disagrees with the lumping together of Appalachian regions with what she sees as a Central Appalachian bias. Jeanie sees Appalachian studies as having its heart in the
cultural artifacts of crafts and music. She also sees a social mission as a legitimate part of Appalachian studies.

Helen Lewis, one of the founders of the discipline of Appalachian Studies writes of the necessity for Appalachian studies that includes a political education appropriate for schools in the region. She also asserts that academia’s challenge would be related to research and not co-opting Appalachia, Lewis stated that research is “basically radical, action oriented, and conducive to change” but university research and government funded research are “curbed, controlled, and co-opted” (Lewis, 1981, pp. 9-10). I questioned my participants concerning Appalachian Studies programmatically and in terms of content asked and whether lessons could be applied to primary and secondary public education. This section will discuss the responses of the participants to that line of questioning.

My first respondent, Robert took a more common experience take on Appalachian Studies he stated that:

We certainly thought that in Appalachian studies for many years. Appalachia had to be different. It had to be distinctive. I think now the conception amongst some people, and mine included, is that it need not be distinctive, it need not be different.  (Robert, personal communication, July 14, 2008)

This approach attempts to see the people of the region in a less stereotypical fashion; it sees the region as representing a human condition that is existing in many places. This does not absolve the Appalachian center from having a place centric mission. As Robert states in relation to his position:
I have to be a public intellectual for things Appalachian. I have to agitate, agitate, and agitate. I have to challenge people to be conceptualists in order for learning to occur. I have to aspire to transformative educational experiences. I have to be a spokesperson. I have to be an advocate, a counselor, sometimes a boot camp sergeant, whatever’s necessary, because that’s the reason why we exist here as a center. (Robert, personal communication, July 14, 2008)

He notes that the center also has an institutional outreach:

We would do programming primarily for campus audiences but we also do programming primarily for out-reach like the Cripple Creek Annual Institute. The Appalachian Times Magazine is both a blend of inreach and outreaches. (Robert, personal communication, July 14, 2008)

Robert also sees a strong link between Appalachian studies and environmental education:

Those connections between Appalachian studies and environmental education are really profound and in fact they’re often a gateway for students … to come into Appalachian studies. Very few students come into Appalachian studies via craft traditions or even musical traditions really. They come into Appalachian studies because they either care about environmental education or they learn about it and become transformed and usually quite angry and want to learn more. (Robert, personal communication, July 14, 2008)

It was Robert’s insistence on the strong link between Appalachian studies and the environment that led me to believe my research was headed in the proper direction, for
Robert saw the chief impetus for students as being rooted in their knowledge and experience of environmental impacts in the region.

Peter sees the discipline as a possible platform for change, although he does not see it as having happened.

If an alternative worldview is to occur, this message has to be taken to them and they have to increasingly buy into it. I am not sure that, at this point, Appalachian studies has reached the point or in fact, that we are reaching that middle-class and upper-middle-class elite, those who control communities … as well as we ought to be. It raises the question of how do we speak to leadership? I think Appalachian studies certainly have the potential to do that. (Peter, personal communication, October 20, 2008)

Peter is in agreement with Robert regarding the outreach mission of Appalachian Studies. In describing his views Peter said:

It troubles that we, as a society, can’t create opportunities. One of the things that people like me and Wendell Berry are often criticized for is that we’re called “romantics” and that we want to go back to some romantic era that never existed and that’s as far from, I think, getting the point, it totally misses the point of what we’re talking about. (Peter, personal communication, October 20, 2008)

They both acknowledge the necessity for change and development in the region. This need is echoed by John, but his concerns reflect another area relating to the discipline:

I was invited up to Shawnee State by a woman I knew. They were going to start an Appalachian center there and I went up there as a consultant. I talked with
them a whole lot and I recommended instead that they do an Ohio River center. So I think the idea of studying place, of sense of place and where you’re situated. It may be that Appalachia has been overly used and… I think we’ve built up a resistance to it and in some of my writings I haven’t used the word. I’ve talked about sense of place and what is local and what is cultural and what the cultural values are. That can apply anywhere. (John, personal communication, October 21, 2008)

John sees a problem with the wholesale lumping together of the region and believes that a more localized place-based discipline is in order. Placed based study can be about any place or, in other words, study of the built or natural environments is important (Gruenwald, 2003). John He is addressing concerns of researchers such as Batteau about the universalizing of Appalachia culture.

Susan brings perhaps a different view of Appalachian studies. The most prolific and perhaps most critical analyst of Appalachian studies, she no doubt reflected views more directly related to the curricular outcome. She starts out stating:

I think that one of the great things about the program was the fact that it comes from such a diverse disciplined background, but you have all these different people who can bring all these different ideas to the table…. My critique, though, on Appalachian Studies: I have a problem with it in the fact that it seems 75% of it is focused as an (Central) Appalachia. But it wasn’t until we went to the last Appalachian Studies conference up in West Virginia; it was at Marshall, that I
saw a panel on second home development. (Susan, personal communication, February 11, 2009)

Susan did not find emphasis on the problems that she saw relating to her portion of Appalachia in her programming. She added that,

It really kind of intrigued me, and Dr. Smith had had this discussion as to why there is these disconnects. And I really kind of got to looking at things and…

Mars Hill College, Western Carolina, they don’t have Appalachian studies programs, they have regional studies programs. Eastern Tennessee has Appalachian studies. But that’s one of the problems that I have, is the fact that there is this disconnect, and it seems like different people have this philosophical discussion or discussion about Appalachia, and they seem to tend to forget that that is a bigger picture. They want this Central (Appalachia) focus 90% of the time. I’m not real sure that there can be a centralized focus on the mission of the program or the study, except from the fact that it needs to center around the socioeconomic and political structures of mountain society. (Susan, personal communication, February 11, 2009)

Susan expresses a major real concern about the lack of place based focus in what is ostensibly a regional studies program. She is in agreement with John with these concerns. She sees real differences in the region. She also sees change happening outside the confines of the University.

So many changing dynamic factors that are changing the way that mountain communities are structured, both in the southern highlands, central Appalachia
and northern Appalachia, that it really kind of hits this shift, and we’re not paying attention, I don’t think, to the larger looming issues. I think we’re missing a lot of things. Because, as we sit down and discuss the academic side of it, so often I feel that we’re leaving out the people who are on the ground, trying to make a difference. Those people kind of get left to the side a little bit, that their voice isn’t heard enough. And so, that’s my problem. We can sit down as academics and talk about how do we educate people and how do we go about making the wider audience more aware of the dynamics of what’s going on in Appalachia, but we can’t even, within the program…have this cohesive idea of what Appalachia really even is. (Susan, personal communication, February 11, 2009)

Her critique continues:

Eastern Kentucky is being pigeonholed, you know, that is so unfair! /Laughs/ and I think that that’s kind of like where the mission of Appalachian studies is missing the boat. And because too often, people are too willing to jump on people and point the fingers at people, and be kind of brash and harsh in their response to how Appalachia is constructed, or how Appalachia is portrayed. if you want somebody to listen to you, and effectively communicate your ideas of what needs to happen, or what change needs to occur, you’ve kind of got to walk softly a little bit sometimes and not carry such a big stick. And, for certain, not emphasize stereotypes. And sometimes I think that that’s where the mission is lacking a little bit, that you have this dual, two ends of the spectrum, kind of thing. We’re either too academic, or we’re seen as being too overzealous or, you know,
Susan has seen the outcome of the “reality wars” in the Appalachian studies community and finds it, “Academic” and damaging to the mission of change in Appalachia.

Jeanie is a professor of English, who incorporates Appalachian studies and environmental studies into her curriculum. She believes whole heartedly in a Cultural Appalachia. She stated in response the question, concerning the philosophy of an Appalachian studies program:

I believe it should emphasize interdisciplinary and primary experiences related to Appalachian culture. Students, I hope, would engage with various aspects of the “folk” culture, including its music, oral narrative traditions, food ways, festivals, folk arts, work customs, etc. I see great value, too, in introducing components of sociology that would help them to analyze in group and out group tensions. This might incorporate stereotypes, religion, work/class environments, etc. Finally, I strongly feel that students will experience the most growth if they practice/personally explore some of the creative elements of Appalachian culture. Thus, they may engage in creative writing, quilting, cooking, field trips, storytelling, folklore field work, music, etc. (Jeanie, personal communication, June 5, 2009)

Additionally concerning Appalachian studies she notes:

I believe that programming which involves Appalachian citizens sharing their varied forms of knowledge in “outside” settings supports the idea of “mission” in
tangible ways. Thus, a strong AS program will feature/emphasize interactive
learning situations that involve people from beyond the academy who share
knowledge and skills with students. I also think that loosening traditional
institutional designs (e.g., appointed class meetings, traditional research projects,
etc.) can invite better opportunities for achieving missions in Appalachian
education. (Jeanie, personal communication, June 5, 2009)

In response to a question on mission she called for:

Promoting an understanding of the Appalachian region and its people that will
lead to active, participation-based inquiry, reflective interpretation and lifelong
appreciation on the part of learners. Drawing from the above comments, I would
emphasize interdisciplinary research opportunities; primary encounters with
members, artifacts, and scenes of Appalachian culture; well-textured
contemplation of regional tensions in Appalachian (e.g., Mountain Top Removal,
drug addiction, media portrayals, etc.); exposure to Appalachian arts and
expressive creativity; exploratory projects that feature a specific investment in
Appalachian themes; options for service within Appalachia-committed
environments. (Jeanie, personal communication, June 5, 2009)

She added:

I believe that the above values can be manifested in projects that encourage out-
of-class learning experiences…dialogue-based exchanges. This may include
field/mission trips to Appalachian places and resource centers but it can also
embrace writing projects that allow students to develop localized projects in the
interest of special Appalachian groups/communities/situations. As an example the study of the Marsh Fork Elementary School’s struggles resulting in reflective/reflexive writing goals such as editorials, audience-specific letters, brochures, fiction/poetry, oral history, etc. inspired by the inquiry. The mission will “reach” the region if it manages to engage each student on a personal level. Allowing learners to stretch beyond the literal content of the course into a realm of personal-academic inquiry will promote a level of value construction that is necessary for the ideal of “education for social change.” Another way of putting it is that genuine investment in the values of individual students in an Appalachian Studies program will assist any mission of bringing learners toward active leadership in Appalachian matters. (Jeanie, personal communication, June 5, 2009)

Jeannie sees immersion in the region and in the culture as the goal of an Appalachian study program and maintains that the mission is also tied up with that immersion. She seems to accept and embrace Appalachia at face value, seeing “music, oral narrative traditions, food ways, festivals, folk arts, work customs” of the region as the overall cultural heritage and unifying factor.

**Summation**

Although I find the academic discussion of the “reality” of Appalachia intellectually stimulating, it seems to detract from the mission of Appalachian studies if that mission is to find ways of improving the lives of the residents. My last two interviewees, Susan and Jeannie attack the notion that academic dialogue outweighs
action. Robert and John both see Appalachian studies as a real platform for a mission of change; John, however, critiques the outcome so far. Statistically, Appalachia needs to catch up with the rest of the country in almost all areas in which we measure progress, so John is perhaps correct (ARC, 2007). If we see Appalachian Studies as an agent for change, John sees the disciplines lack of progress directly connected to the failure to reach that middle-class and upper-middle-class elite those who control communities. (John, personal communication, October 21, 2008) Susan sees it also as a lack of connectedness to a “wider audience” and Jeanie’s statements indicate her view that denial of a cultural reality in Appalachia is a basis for ineffectiveness in education. Robert’s concerns about stereotyping and generalizations are also legitimate. This kind of thinking in the past has lead to a great deal of oversimplification of very complex social and physical situations. None of my participants appear to have negative intensions towards the region, but it is clear that Appalachia is neither cohesive nor uniform and the implications are that Appalachian studies cannot be either. Thematically, Appalachian studies should present a more local place based orientation rather than a unified regional study. Additionally Appalachian studies should play an activist role in the region.

Sense of Place in Appalachia

In the second research question I sought to examine how place related to Appalachian culture and how it express itself in that culture as well as its importance and relationship to education. My participants responded in very clear and strong language to my query, all agreeing that Appalachia has a strong sense of place. Robert pointed out that sense of place is something all people have as a part of human culture. Peter, John.
Ruth, Susan, Jacob and Jeanie also see the Appalachian sense of place as part of an Appalachian culture. John, Jeanie, Jacob and Ruth spoke about the ties between education and place.

Robert sees place as a powerful influence on our identity. He commented:
Place has a crucial role in identity development. It helps ground us, no pun intended I guess. It helps clarify our identity. It’s got a crucial role that is sometimes ignored. Other times we’re just not aware of the power of place, especially in that globalized age when information and culture and economics and all other kinds of communication are supposed to be fluid and swift and flexible. So I think for every time we pull on this rope toward globalization there’s also kind of a simultaneous pull to the local. We used to think that place was so unique and it had to be unique because if it were important to our identity then it would have to be unique. I think lots of people from rural cultures around the world are intimately attached to place. But I know people in Manhattan who are also intimately attached to place. (Robert, personal communication, July 14, 2008)

Speaking specifically of Appalachia, he continues:
People, myself included, really do like to think that place has to be distinctive but it overlooks the blending that arises from craft traditions. Every place has lots of history. I’m always intrigued when people say there’s so much history there when talking about a particular place and I always find that a curious statement. There’s a lot of history everywhere. We’re just not aware of it. (Robert, personal communication, July 14, 2008)
Peter sees a tie between culture, history, and place:

How we relate to this landscape. How we relate to water. It’s the environmental thing. I am absolutely convinced as a historian that those cultural values that emerged in the mountains were, in many ways, a product of that relationship to the land and as that relationship to the land changed over time so did those cultural values. (Peter, personal communication, October 20, 2008)

John sees the importance of the local in our history:

So if I get across the idea that a school in Welch, West Virginia, or McDowell County ought to have some orientation to McDowell County. If you want to talk about these are mountain people or these people are Scots-Irish or these people are actually a lot of Eastern European Italians and all kinds of people up there, well they’ve created some kind of culture and they have values that need looking at. The high schools ought to be just as interested in that as they are in general American geography. (John, personal communication, October 21, 2008)

John would like to involve the local communities in this project:

I think we have to go farther than saying we simply have to have some sort of regional or local component to our education and invite people in. [We need to] invite local people who are knowledgeable into the classroom so there is that big component of let’s teach our own children and let’s make use of our own resources and not just sit in a classroom and read books and have the teacher question me about them or lecture to you. I think education ought to be more local, that’s certainly true [and] it should be applicable anywhere if it’s applicable
in Appalachia. We might be a special place with special problems, the stereotyping, the negative view, the extractive industry, the poverty, substandard this and that, but I think the idea of regional or some kind of local education is applicable wherever you are. (John, personal communication, October 21, 2008)

John sees the loss of sense of place in the postmodern world as bordering on the tragic:

Do you care if you live in Berea what they’re doing in Perry County if you don’t have a sense of place? Certainly in all of this education I think you have to teach world history and world ecology and what’s happening worldwide but also what’s happening here, what may happen here? We may be in dire straits in places in this country. We may not have enough food, we may not have enough water and we’re very careful with water and with everything else. We’re burying streams over here when Kentucky is known for its streams. They’re important. (John, personal communication, October 21, 2008)

Ruth thinks that localism is a positive development in environmental education.

I guess when I look at environmental systems, and if I wanted to develop a sustainable system, then you have to start with the local, you have to start with the place and come out from that, and come out from that educationally and developmentally and culturally and then deal with the national culture, through that lens… [Localism] is one I think really promising thing that I have seen in the 15 years I’ve been here. There was a time that anyone who was teaching about the environment in schools was teaching “save the whales, save the rainforest, save the ozone” and now when you go into these schools they’re studying local
issues and they’re essentially doing research on their local environment rather than somebody else and that’s a major step forward, we think. (Ruth, personal communication, October 28, 2008)

Susan relates first to place as a home place:

When someone says “place,” two things pop to mind. One is the cemetery at Shoal Creek, where my maternal family is buried at. And the other one is on top of Devil’s Courthouse, because it was a place that I used to go to, sometimes, when I felt like life got a little bit overwhelming. And that, by the same token though, my place is the same place that I call home, and it’s not my house in Lexington, my home is in Western North Carolina… I mean, it doesn’t necessarily connect me to a certain individual or a certain home, but more of— It’s an immediate flash of a memory of a scenery, or a piece of scenery, whenever coming down Highway 40, when I turn the corner at Gatlinburg, and I can see Western North Carolina looming up in the distance in front of me, you know, I couldn’t help but get all choked up because I couldn’t wait to get across the state line! (Susan, personal communication, February 11, 2009)

Susan feels that Appalachians certainly have a strong sense of place:

I think that’s one of the things that makes it different for mountain people, at least through my own experience, is this self-worth and self-identity that is so intrinsically linked with family and place that as long as you have family and you have a roof over your head and a garden to grow a few things, you’re not poor. Poor is somebody who is starving, running around naked. It’s like my Nanna
said, as long as I can make a pair of slippers out of a flour sack, we’ll be all right!

(Susan, personal communication, February 11, 2009)

Education and place are important links to Jacob:

We’re putting that in context. You’ve got to know where you are. In the education that I had, for example, which was mostly not in Appalachia, was mostly in North Eastern Ohio, there was still a contextual kind of wording that went on. You learned very early in your education that you were in a certain county/town/place, and back in those days, they taught local history….How do we define ourselves as something like and something different than places surround us, places that aren’t us? So I guess that, it’s not just Appalachia. It’s anywhere specific, it’s where you are, within the limits of your normal activities, your operating area. From a wildlife standpoint, I call it your “habitat.” So, I think its area limited, its distance limited. It’s time it takes you to get there and do whatever it is limited. (Jacob, personal communication, May 8, 2009)

Commenting about Appalachian culture and place, Jacob notes:

As it exists right now because of the history that’s gone into it, that is inevitably related to the form of the land, and the people that lived on that land, and the way they got there, and what happened to them after they got there, which is driven by the resources and the characteristics of the land, it’s completely, completely, in my mind, geography driven. (Jacob, personal communication, May 8, 2009)

Jeanie believes place is one of our personal defining experiences:
In the realm of lived experience, the concept of place invites a web of definitions and value associations. Place, for example, can be “home” for someone without that person ever having occupied a geographical space on an ongoing basis. (Jeanie, personal communication, June 5, 2009)

She sees the Appalachian sense of place as well defined but notes that academia has not utilized it well as it could.

Place as a concept associated with an Appalachian person may reflect strong in-group identity associations. My own sense of place, for example, involves Madisonville, Tennessee, and Blairsville, Georgia. Though I have not been a legal, permanent resident of those two places, they represent home places that I claim as my own. So do certain ridges and waterfalls along the routes related to those areas. There is, of course, a geographical-tourist relevancy to “place” as well as a practical-functional relevancy, regarding Appalachian culture. Is it livable? Is it “worth seeing” in the minds of others? Is it worth protecting? Is it home enough to stay…alien enough to leave? Can it be claimed by others who do not literally occupy the place? I truly believe that it takes a special form of educational outreach to promote the value of communal support for Appalachia, the place. All too often it is Appalachia-the-ideal that translates through our pedagogy, and the literal, visceral, familial, sacred, vital element of place is lost between lines of text. (Jeanie, personal communication, June 5, 2009)

Jeanie thinks that place in culture is not deep but can be misunderstood by the casual observer. This can generate resentment from the inhabitants toward the “tourist:”
Appalachian music and literature—even its own interpretive tourism industry—reveals a complex gaze at the notion of place. The tension generated by territorialism, ghettoism and tourism invites a complicated examination of the hollow… I am working on an article related to this idea—tying it in with my term “kinship pedagogy” in order to explore ways to transcend what I have dubbed as “spectatorship learning.” (Jeanie, personal communication, June 5, 2009)

Summation

The sense of place is seen not only as a deep and very human experience but also as a strong identity piece. The idea of a junction between education and place is also strongly supported. While I did not specifically ask about the loss of place or the disjuncture of identity through the loss of place I do not see this as a large jump. The respondents all agreed that sense of place is important to Appalachian inhabitants and is a strong cultural norm. That being said they implied this is true of most people. The idea of tying place to education was met positively, I also think this is a more universalized finding (Gruenwald, 2003).

Environmental Education

I attempted to establish links between the study of the environment and Appalachian studies with the third research question. In doing so I uncovered a rich emphatic dialog on the relationship between Appalachian studies and environmental education. Robert, Peter, Ruth, Susan, Jacob, and Jeanie all saw profound connections between environmental education and Appalachian studies and Robert, Ruth, and Jeanie pointed out ways that their work was integrating education and environmental education.
During my first interview with Robert, he responded as follows:

I think there’s an enormous connection [between environmental education and Appalachian studies] but I think there’s an enormous connection between any particular place and environmental education. Those connections between Appalachian studies and environmental education are really profound and in fact they’re often a gateway for students … to come into Appalachian studies. They come into Appalachian studies because they either care about environmental education or they learn about it and become transformed and usually quite angry and want to learn more. We work a lot with our sustainability and environmental studies program because of those connections. (Robert, personal communication, July 14, 2008)

His vision of the connectedness of place and identity and, more specifically, the Appalachian region and environmental education, along with his assertion that it was a driving force behind students choosing to study Appalachian studies, were very strong indicators that the tie between the environment and Appalachian studies was crucial. He also stated that his institution was working on programming that tied the two disciplines together.

Peter sees a connection between environmental education and Appalachian studies, in the way that he sees the issue of analysis being approached. He asserts that both history and the environment can be best understood through systems analysis.

Speaking to systems theory, things environmental science has helped me to understand is the issue of scale that systems can operate and, in fact, do operate at
scale. They are integrated together but operate at scale. The tension that many environmental educators feel in themselves is because the sciences have a way of sort of pushing us into the sort of structural way of looking at life, an engineering approach to life rather than this sort of questioning the relationship with technology to our lives and that whole side of it. That is the tension that I see when I go to my wife’s conferences of environmental educators I feel at home because they’re asking the same kinds of questions that I’m asking about how history works and power relationships work and cultures work. (Peter, personal communication, October 20, 2008)

This system of scale comes from the theory of the adaptive cycle and resilience theory in environmental studies. The theory states that different scales of systems of adaptation exist based on their physical size and cycle time. The systems also interact despite these differences of scale in very complex feedback ways (Walker & Salt, 2006). Peter also sees a direct tie between the environment and culture and the subsequent history of that culture in terms of how:

We relate to this landscape. How we relate to water. It’s the environmental thing. I am absolutely convinced as a historian that those cultural values that emerged in the mountains were, in many ways, a product of that relationship to the land and as that relationship to the land, changed over time so did those cultural values. (Peter, personal communication, October 20, 2008)

Environmental education as it is being taught in primary and secondary schools in the Appalachian region tends to focus more on recycling, cleanup, and nature study. This
focus tends to ignore the more controversial aspects of environmental education such as environmental and ecological justice and industrial landscapes like mining. Ruth, who heads up a state environmental education program, explains that:

PRIDE is an acronym that stands for Personal Responsibility in a Desirable Environment. Let’s clean up Eastern Kentucky, and a big part of that is the actual cleaning it up, but another big part of it is environmental education. The Eastern Kentucky environmental education [program] tends to be run or centered almost entirely on PRIDE because the PRIDE program gives them $5,000 grants, which is much, much more than anyone else gets. Environmental education does not have a lot of funding, and those grants are used almost entirely to develop outdoor classrooms. So they [the students] have wonderful outdoor classrooms and the point of that is to instill pride in them about their region and keeping it clean… having said that there’s lots of things they don’t address such as mountaintop removal, acid mine drainage, the more controversial things, but they do teach the basics. (Ruth, personal communication, October 28, 2009)

Ruth believes that through these connections that students can begin to see the bigger picture and ask critical questions on their own. As she said “as an individual, I am very much into mountaintop removal and that sort of thing but as educators we think it’s much better to teach basic environmental concepts and then let people figure that out for themselves.”
Ruth also sees a connection between environmental education and learning in a more general sense. Quoting a Pew Charitable Foundation report she stated that the report:

looked at how well environmental education works as education, not how well it teaches about the environment, [but] does it raise test scores, does it raise critical thinking abilities, does it help kids problem solve, etc? The findings were somewhat surprising. For example the scores that went up the most were language arts…. It was a nationwide project. It [shows] how well environmental education works as education, because that’s another reason for doing environmental education…it raises test scores among at risk learners. We know that schools that initiate environmental education programs, especially local programs with an outdoor component, their test scores go up. I say it’s especially good for kids who don’t learn in traditional ways because environmental education uses lots of diverse instructional strategies and so that just appeals to them. So if you don’t learn by sitting and listening, which most of us don’t, you’re going to learn better when you’re out in the woods doing something.

(Ruth, personal communication, October 28, 2009)

Ruth further expounded on environmental education and how it teaches connections.

An awful lot of people think that environmental education and science education are exactly the same thing and that’s not true. That’s a big barrier that we have to deal with all the time. No Child Left Behind [laugh] is a huge barrier because it divides everything up into disciplines and you’re only tested in those disciplines,
and we have the same testing system here in our state. I mean everything is just
disciplined based and that’s a major issue, especially nowadays when the
boundaries between disciplines just keep blurring. I mean the boundaries between
chemistry and physics and biology are just so blurred now and so it’s not realistic
and yet it’s how we divide things up. It is an issue for us, but one of the things
that we find is that when you can get students really involved in doing research on
their place then they immediately see the connections. So that’s what, when we
did “Green and Healthy Schools,” that’s what we were after; we were after
helping them see all those interconnections. But even when the kids with Eastern
Kentucky PRIDE go out and start doing outdoor classrooms they immediately
begin to see connections, not just between the physical/biological surroundings
but there will be a big road going by or all the different things that are involved.
If you can get teachers and principals to let kids actually go out into the
environment it’s very hard for them not to see the connection. (Ruth, personal
communication, October 28, 2009)

Ruth sees the process of make the connections inherent within environmental systems as
educating students to making connections in the world around them. This is the same
impact that Orr and other’s (Bowers, 2001; Clover, 2004; Orr, 2004) are speaking to in
their promotion of environmental education.

Susan questions the premise of what is being taught as environmental education:
Whether or not environmental education has actually been taught in the schools—
I know that North Carolina, back in the 1980s or 1990s was making a
commitment to teaching more about …local history. And when I was in school, we would go down to Home State Forest and learn about the ecology and geology of Western North Carolina. We learned to identify plants, and trees and stuff. But a lot of that I already knew, because my grandfathers were very much “men of the mountains” …from the time that I was a little girl, they taught me all those things.

(Susan, personal communication, February 11, 2009)

She expounds further on the meaning of environmental education:

Well, environmental education for me is kind of an all-encompassing term. It doesn’t specifically need to automatically have a knee-jerk reaction back to environmental disasters…. It also needs to include teaching children about the diverse ecology, the diverse geography, the geology; ecology is geology, flora, fauna… And then, you know, you can talk about the things that make each part of Appalachia unique… like the Blue Ridge is crystalline, while Central Appalachia is sandstone and it has coal. Northern Appalachia is granite, and plus it also has anthracite. And they don’t talk about that; they don’t understand that certain kinds of oak trees only grow in upstate South Carolina and Northern Georgia. They don’t understand that these types of trees don’t grow everywhere all over the world. (Susan, personal communication, February 11, 2009)

Susan sees a connection between environment education and perception:

I really think that environmental education needs to be the all-encompassing kind of conceptualization where, kids are taught not only what makes their local area unique, but also about what makes their region unique, what makes their half of
that world, their half of the hemisphere, unique, and then, what makes the world
unique, how all of these things kind of blend together to create this diversified,
global existence. (Susan, personal communication, February 11, 2009)

Relating to Appalachian studies, Susan sees a real tie between it and environmental education.

I think that environmental education has to include the structures… those time-honored socioeconomic political structures, because so often, those imposing forces impact our environment, whether it’s the environment in which we live, and that, you know, our house, our home, our family structure, as well as the physical landscape. So I think that there should be this kind of blending within Appalachian studies to… talk about these bigger issues than just what is happening with mountain-top removal. (Susan, personal communication, February 11, 2009)

Because Jacob works as an environmental scientist he has a different view on what environmental education represents:

Environmental education is in the same category as art appreciation, in that there are courses where people are generally taught of the environment, and they get to look at the different issues, and they get sort of an environmental awareness, an environmental sense, and they can tell a forest from a lawn and things like that. They know what the current environmental issues might be, another aspect of environmental education, to me, is a component of the combination of physical, biological chemistry, geological sciences into a quantitative understanding of the
way the world works. And that’s the approach that I’ve always been involved in. (Jacob, personal communication, May 8, 2009)

Jacob’s view on environmental education is concerned with outcomes of environmental policy:

In order to formulate any kind of public policy around any subject, it takes some awareness of a large group of people….And environmental issues are very poorly understood by most people over 40, frankly. I think there’s a better understanding that’s emerged in the last 20 years, more of an awareness, at least of the terminology. You can at least hold a discussion that doesn’t have to be a training session every time you have one. And when I started out, we were creating the terminology. And that’s what’s been going on for the last 35 years…is coming up with the ways of talking about an environment. (Jacob, personal communication, May 8, 2009)

Jacob further describing the history of environmental education explaining that until recently:

There were no programs that you and I knew about that were just ecological training programs. It was a course in a few places, an ecology course. And you know, it was thought to be edgy and speculating, and possibly not science and things like that, in those days. And it’s taken a while to build a constituency, to build a jargon and to build a body of understanding that draws from all the different disciplines that are involved. So I don’t know that anything new has been created. Just a way of linking many of the other physical sciences,
biological sciences, this is what environmental science really is. (Jacob, personal communication, May 8, 2009)

Jacob describes what he looks for in analyzing a biotic system:

Adaptability is incredibly important. And I look around in the real world, and I see models of adaptability all over the place. And as I begin to understand the relationship between these things and the places they live, or the places and these things, that it’s all about adaptability. And all about how those different things, the places, the animals, the rocks and the air, sunlight, energy inputs of all kinds, participate in creating a particular reality that I live in and try to observe and understand at any moment. There are definitely all sorts of aspects of that elm tree that can be addressed by physics, but there are those that can be addressed by chemistry. There are those that can be addressed by biology, or an understanding of meteorology. But in whole, you have to be able to pull it all together to make some sense, and within a context of the entire venue, not just any single street. (Jacob, personal communication, May 8, 2009)

He is, however, critical of secondary schools’ efforts:

A lot of education right now, environment education, is fairly global, at least in the introductory levels. And I look at what they teach, for example, at the local school. There’s nothing that they teach that is applicable locally. Nothing, absolutely nothing. I can tell— It doesn’t particularly make sense, but it is driven by a system that is external to the powers-that-be. (Jacob, personal communication, May 8, 2009)
Jacob’s perspective is unique in that he works professionally as an environmental consultant and has a great deal of knowledge about the inner workings of that work. This is reflected in his view of the world and his approach to understanding our place in it.

Jeanie teaches both Appalachian studies and environmental studies in a combined course. She describes her views as follows:

Environmental education invites an interdisciplinary, group- and region-sensitive gaze at sustainability and its lack. The topic incorporates multiple rhetoric and topics—must be taught multi dimensionally and not flatly. MTR, for example, is frequently presented as a two-sided issue about land destruction when it is nebulous. Environmental education and Appalachian studies; for me, they are inextricably linked. Speaking as a person who embraces Appalachian heritage, I cannot understand the group identity without land-living associations. This is not to suggest that nature and place is the tenet of Appalachian studies—but it reminds me of how the blood is related to the body…. (Jeanie, personal communication, June 5, 2009)

She describes the curricular approach at her institution.

We have environmental science courses. I have recently established a link with the Biology Department to teach environmental literature in support of the new environmental science major. My Native American and Appalachian based courses support environmental topics. I see strong links—stewardship of the land is and has been a theme in Appalachian living; thus, there are forms of knowledge in this area to be offered by Appalachian people themselves. I believe, too, that
environmental education via the academy also has something to offer people in support of Appalachian-based concerns—whether those learners be Appalachians themselves, citizens in a workforce, students in an AS program, politicians behind a desk, etc. (Jeanie, personal communication, June 5, 2009)

Methodologically, Jeanie uses an integrated, multidisciplined approach to her pedagogy:

I address the above issues in a holistic way, sometimes focusing or emphasizing on one or the other in order to address literary or cultural subjects that we are studying textually. My approach includes teaching students about mountaintop removal from multidisciplinary angles. I invite a “round” gaze at the rhetoric involved, which would include some contemplation of biology-ecology, commerce, folklore, media, music, oral history, literature, and politics. I also work primary experiences into my curriculum to the tune of memorable investments. We may study Barry Commoner’s laws of nature, hike, and then write odes/elegies that incorporate the language of mountains and MTR. Students may collect oral narratives from their own home place folks or return to memory places/nature for solitude and reflection in order to develop more critical understandings of place. This deepens how we might share our thoughts about sustainability, development, etc. A student in my class may have heard a live ballad performance, gazed upon a black widow spider in a jar, walked a shale bed to find amphibians, tasted Johnny cake, etc. as part of a SLOW (Sustainable, Local, Organic, Whole) kind of experience with Appalachia. (Jeanie, personal communication, June 5, 2009)
Jeanie emphasizes through her pedagogy the essential ties between the studies of identity and place.

**Summation**

The responses indicated a common view that a tie exists between Appalachia, Appalachian studies, and environmental education. There was a great deal of variation about what environmental education is or should be. I took from the responses a directional concept, that the connections between the study of Appalachia and the study of the environment were intimately related. There is also the tie between place and environmental education. Place includes the built and natural environments. The respondents by and large do not delve into the deeper relationships between environmental education and education, as does Orr (2004), who asserts that “Environmental education is education” (p.13). I think, however, that when confronted with the question of the importance of environmental education everyone saw it as deeply important to the region.

**Environmental Justice**

The fourth research question engaged participants on the issue of environmental justice in Appalachia. Environmental justice is a term that attempts to qualify and quantify the practice of industrial development in areas of lesser public perception and perceived value. It addresses the old adage of out of sight out of mind (Hill, 2003). I asked the respondents about environmental justice in Appalachia. All the participants knew of issues of environmental degradation and were highly critical of the lack of environmental justice in the region.
Robert spoke to background issues concerning environmental justice and the realities of what he sees as environmental injustice in Appalachia:

There’s an enormous environmental history to be written still about Appalachia. Today there’s a tremendous environmental destruction occurring in the region….I see, mostly injustice based on class and sometimes race. So I would say I see very little environmental justice. We could write books about environmental injustice in Appalachia. Tomes and tomes as you know and it’s definitely leading to incredible health damage where our choice for cheap food has just deferred the payment which we’ll ultimately have to make insofar as disease and illness and cancer and all those. We’ve just chosen to pay later as a culture regarding food. Energy is destroying this place that we love. It’s taking the mountains that epitomize the region and leveling them. It is terribly destructive as you know to the people who live amid them and the people who live downstream; particularly we’re seeing the destructive consequences of our ways in this region. In addition to food and shelter and energy, I think we also need to think obviously about dignity and justice for all people because they’re just as precious in this region as there are in all kind of peripheral regions around the world. (Robert, personal communication, July 14, 2008)

Robert also spoke about actions his institution is taking educationally:

We did a whole semester program on mountaintop removal a year ago. We just showed a film here called *Burning the Future* on Wednesday night, a brand new documentary about coal in America. We are showing another film called *The
Appalachians. It’s an environmental history and a human history combined. So we’ll be premiering that in November in the state of Kentucky with the filmmakers. We do teach a class on environmental justice. It’s not focused exclusively on Appalachia but it is an integrative context for the course. (Robert, personal communication, July 14, 2008)

John has a more reserved view as he wants to accommodate what he sees as existing economic realities:

My friend Wendell Berry talks about the viewers of the environment, the environmental tours, [people who want] a guide from Louisville or Frankfurt and see the Red River Gorge on the weekend, but that’s their connection with nature. They want the people who live over there to conform in certain ways so they can be viewers of culture. But the lieutenant governor would like to have designated places for ATVs and hiking trails and all these, probably on mountain top removal land because he’s in favor of getting that coal out. So it’s a complicated business. They [coal operators] needed to pay for labor at whatever they can negotiate with their workers and machinery and gasoline and electricity and all of that. But what about the environmental damage? We don’t have a big sense of how to do that. Well we’ve done the reclaiming these land over areas and I think we’ve done some things with it, but not very good [things]. Fairly recently they’ve decided that letting the mined land go back to timber is probably more cost efficient because you don’t have to smooth it as much and plant grass and everything. But this CO2 problem, every tree that we allow to grow and the good thing about
timber is it always comes back, even in pretty poor soil. The soil that they get on top of these mountains to begin with is poor. When they talk about saving the top soil it is a little bit absurd because there isn’t much top soil there. There are enough nutrients down in the rock and shale and subsoil apparently for trees to grow and they will grow if they’re given a chance. (John, personal communication, October 21, 2008)

Ruth wants to build greener school buildings as an environmental justice issue. She sees the buildings constructed during the last 40 years as ignoring health concerns in the face of budget savings to the state.

The Green School thing, a part of it is trying to get districts to build green schools, to build more natural sustainable schools, better energy, better air quality and all that, and I didn’t understand how sick our schools make our kids. I mean I knew I guess at some level, but I didn’t understand it and it’s schools built from about 1970 on, and the asthma rates are unbelievable and when you build a school to the newer standards, which actually doesn’t cost anymore, asthma rates drop by 75% to 80%, and there are a whole bunch of other health things that occur in these buildings that are built. Instead of building the cheapest you can, you go the healthiest building you can. I just got back from this….annual conference and I attended a workshop there, this young man from Florida State had developed a measurement process for environmental justice. It was fascinating and… I passed it on to colleagues who have more control over that. In our agency we just deal with the schools. (Ruth, personal communication, October 28, 2008)
Susan grew up in Western North Carolina; her issues about the environment are based in that experience:

I had no idea what strip-mining or mountaintop removal or anything like that was. I mean, I understood, environmental problems because of what we had in Western North Carolina with situations like the *Champion* paper mill…. And they had some environmental issues there. And we had residual left-over mining from like, mica and that sort of stuff. But the biggest issue that we had at home was second home development., I can remember from the time that I was a child, there being this issue about very wealthy people coming in to the county, building these multi-million-dollar Mc Mansions, and they would only spend half of the year there or less, and it was jacking up the price of the property; it was jacking up taxes. And the whole kind of social dynamic of the area really began to change. (Susan, personal communication, February 11, 2009)

Susan recalls forestry practices in the area where she was raised:

When I was growing up in school, we learned about deforestation as a good thing, because the cradle of forestry, the initial, the first forestry school of the United States is there in Transylvania County. We kind of learned that as a good thing: it provided jobs, it provided all of these economic kind of benefits for the county, but nobody stopped to think about the flip side of that and the environmental impact it had, so we had a lot of flooding. But that was one of the things that, growing up, it was just kind of, you took it with a grain of salt. It was exactly what it was, and I didn’t grow up understanding the fact that a lot of the flooding
came specifically because of this deforestation and some things that happened, because, my grandfather – both of my grandfathers, actually – were still working in the lumber industry as I was growing up. (Susan, personal communication, February 11, 2009)

Susan realizes that the economic basis of her childhood community was tied to severe environmental degradation:

The tannery and the paper mill were right there. I think the funny thing is that growing up in an area like that wherever you have the jobs at, you don’t get the flip side, you don’t get the bad side of what is happening with the paper mill. There’s been issues all along with how they were storing the byproducts, the chemical compounds that used to generate the cigarette paper, and so, you know, periodically, you’d get spills out into the Davidson River or tributaries, and I can remember my Daddy wading hip deep, because he works [in water maintenance] for the plant, and he would be wading hip deep in this green, foamy stuff out there. As time has progressed … some serious issues [have been found] in Transylvania County, the native population has an extremely high cancer rate. My dad died with cancer. A lot of the guys that he worked with died of cancer. But I think those are issues there that are being a little bit more addressed, particularly since The Champion Pigeon River incident. The Champion was releasing chemicals into the Pigeon River, and Champion paper mill is over in Canton, North Carolina, which is right out from Asheville, and basically, it was polluting the Pigeon downstream in Tennessee. It came to this big head, and it
made a lot of news that the state of Tennessee was suing the state of North Carolina, or was suing Champion paper mill to clean it up. So...the EPA got heavily involved in it. And so, it effectively kind of bankrupted the company a little bit, and so that they wouldn’t lose those jobs, the company offered to cede Canton Paper Mill to the employees, and the employees of the mill bought it, and it’s now Blue Ridge Paper Mill products. That’s kind of nice, you know, and they’re trying to make sure that it’s more ecologically friendly. (Susan, personal communication, February 11, 2009)

Jacob has worked in the environmental field for 30 years and has a historical view of it. He said the concept of environmental justice:

Was a notion most developed under the first Clinton administration. I’m pretty familiar with it, because I’ve run into it under the national Environmental Policy Act quite a bit, and it has to do with the notion that the impacts of certain projects should not excessively fall upon any particular group....There are environmental considerations and past history that has caused the funneling and the concentration of certain people’s races, economic classes, into certain locations, for various reasons. And everybody knows the wrong side of the tracks and the poor side of town, right? And therefore you can trace the history of such places back through industrial development of all kinds that resulting in the wrong side of the tracks. (Jacob, personal communication, May 8, 2009)

Jacob sees environmental injustice in Appalachia as some of the worst examples compared to other parts of the country:
On a national scale, it is a part of the United States that has been treated like a third world country….Go back to those original settlers. It was used like any other piece of ground, we’re going to go there, we’re going to live, and we’re going to make a living off this piece of ground. But, within the last 100 years, Appalachia has been operated as a resource extraction [area], so not an area where you consider a sustainable population or a sustainable anything. Nobody thought about sustainability. We’re going to cut timber till the timber’s gone, and then we’ll quit. We’ll mine coal until the cost of extraction exceeds the market value, and we’ll quit. We’re going to dam the rivers until we run out of rivers to dam, then we’ll quit. And whatever the outcomes, that’s got nothing to do with us. And that’s the way the area has been treated for the last 100 years, particularly in the last 50 or 60, I think. (Jacob, personal communication, May 8, 2009)

Jacob is troubled by the use of the term “justice” but affirms the concept.

I mean, it’s the word ‘justice’, I suppose, that is trouble more than anything. There’s certainly been an economic imbalance, and the Bob Murrays of the world would not do in their backyard what they do in Appalachia. They just wouldn’t do it. You know, I’ve been to where Bob Murray lives and I know the neighborhood, and it doesn’t look like Wise, Virginia. It doesn’t look like Glouster, Ohio. (Jacob, personal communication, May 8, 2009)
**Summation**

The participants personally and professionally voiced their concerns with and affirmation of environmental justice issues in Appalachia. They find the concept valid if not the language. They see Appalachia as an area that suffers widely from the lack of environmental justice.

**Development in Appalachia**

Research question 5 sought to examine how participants engaged the question of development in the Appalachian region. Economic development is a source of growth in the region. To date that development has been largely based in extractive type industries: mining, timbering, stone, sand and gravel (ARC, 2007). Other development has been connected to industries that, although at a somewhat higher developmental level, are seen as less desirable, such as the chemical, refining, and steel industries with their high polluting activities. While at first blush it might seem that education and development are far apart, I would argue that economics and development have been the guides for educational pursuits in the region. The basic questions about development were concerned with sustainability and other programming or businesses that might improve the region and what the past development meant to Appalachia.

All the participants voiced the opinion that future development needed to be sustainable and environmentally responsible. Where they differed was in their assessment of the feasibility of that development. Robert and Peter are strong advocates for sustainable development and thought that it was possible through education and community involvement. John, Ruth, and Jacob are advocates but more cautious given
the existing economic basis in extraction industries like coal mining and timbering. Peter, Susan, and John see tourism, which is often lauded as a “green” alternative as having a dark side. John sees the lack of real economic growth, and Peter and Susan are alarmed by the gentrification aspect of tourism.

My first interview with Robert yielded a great deal of information. His institution sees a real tie between Appalachian studies programming and development. Speaking of an outreach program in which he is involved, Robert said:

We do work out into the region developing communities, developing leaders, doing service, searching for understanding, and that kind of thing. Big Sandy works with communities in Appalachia to develop communities and leaders. One [of the functions] is the Annual Institute which is a three-day series of workshops here on campus designed primarily for nonprofits and communities and leaders in those communities to develop them. (Robert, personal communication, July 14, 2008)

Speaking about another function of their outreach program, he explained:

It tracks on legal issues for nonprofits, digital storytelling, community development, new tools for economic development, advanced communication skills, executive strategies and problem solving, fundraising websites, grant writing, nonprofit management, financial management, marketing web site. The other thing they do is they partner with a community to work with that community to develop the community. So for the last several years they’ve been working with Richmondale, Ohio. It’s called the Community Transformation Program. We’ve
learned that the way that Central Appalachia has chosen for development has not worked. What it’s done is destroyed the environment. It’s destroyed people who live amid that environment and it has led to the worst kind of life for people having to choose whether to stay and be poor and hungry or to leave and be disconnected and prosperous. (Robert, personal communication, July 14, 2008)

On the subject of sustainability he added:

So I think there’s plenty of possibilities regarding environmental education and sustainable development in place that effective leaders ought to investigate and convince the populous about. (Robert, personal communication, July 14, 2008)

Robert sees one of the functions of an Appalachian studies program as a guidepost to help leadership develop the region and to tie new development into a new sustainable direction and not the old, as he states, development that “destroyed” the environment, natural and social.

Peter sees the problem in a more systems theory light:

we have tendered to allow the market itself to focus our social energies and our ever converging direction at the global scale We ignored the importance of local and regional market networks because of the drive for more. Our modern technology and consumer-based society has…pushed us into the more we can sell on a global basis now, today, that’s how we define economics, our economics in global economics. (Peter, personal communication, October 20, 2008)
Peter states that historically Appalachia had a more independent economy and sees how a re-creation of those aspects might produce a sustainable economy:

One of the things environmental science has helped me to understand is the issue of scale and that systems can operate and in fact, do operate at scale…. [We] tend to train our economists in global economics and in current economic crises that we’ve just come through in terms of banking and credit. Yet one of the things that I understand as a historian from studying the history of my place of Appalachia is that local and regional market mechanisms have operated in the past and do have a potential to operate [again as] in the past. Not completely separate from these larger structures but if we paid much more attention to local and regional systems of exchange of goods and services – if the exchange of goods and services were designed not necessarily just to accumulate more but designed to provide services and to reinforce such things as local cultures, family stability, relationship to the land, preservation of local ecosystems … that economy might be more sustainable. (Peter, personal communication, October 20, 2008)

Peter speaks further to the concept of sustainable economics:

If we used our public resources to design our systems so that local and regional were valued, then it seems to me, we, on a world scale, [would] design a more sustainable system. Sustainable in terms of cultural differences and everything else and we continue to be connected. There is no way we’re not. I don’t see that necessarily globalism in that way is necessarily bad; it’s the emphasis that we
tend to use and the degree to which we allow that globalism to destroy the specific. (Peter, personal communication, October 20, 2008)

Peter also sees a problem in communication between Appalachian studies and regional leadership as it pertains to development:

I am increasingly frustrated that we can’t provide adequate healthcare, comfortable housing, meaningful schools, and other kinds of social institutions for people in the places that they want to live. With the technology and the creativity and the skills that we have, it’s beyond me why we cannot design sustainable systems. It seems to me that those of us who are advocates of a different way of looking at life must be reaching those in power more than we are. What I mean by that is one of the real dilemmas facing Appalachia is a leadership dilemma. If an alternative worldview is to occur, this message has to be taken to them [those in power] and they have to increasingly buy into it. I am not sure that, at this point, Appalachian studies have reached the point in fact. (Peter, personal communication, October 20, 2008)

Peter further analyses the difference between developments in parts of Appalachia:

The coal areas of Appalachia traditionally have been the poorest, and their problems as defined by policy makes, has been “under development”. In contrast, Western North Carolina, North Georgia, and the non coal areas of Appalachia, their problem is overdevelopment. I am not at all convinced that in fact they are. I think that they are in fact a product of the same mentality, the same world view that just simply produces these apparent differences, but ultimately, they relate to
these fundamental issues of “what’s community?” and “what are we doing to land and therefore, what is land doing to us?” kinds of questions. (Peter, personal communication, October 20, 2008)

Peter talks about the relationship between development and education:

Part of what I have learned about higher education over the years is that higher education ultimately defines development in very, very narrow ways. That has been in fact part of the problem. We’ve been training teachers to go back into rural communities with certain sets of assumptions and values about what the good life is. So higher education has been in many ways, complicit, if not the driving force behind a particular way of looking at life and ideology. My point is we need higher education and yet I also am very much aware that if we get it, it’s going to contribute even more to the destruction of the lower remnants of this alternative culture and alternative way of living that I value. So it’s a dilemma for me. (Peter, personal communication, October 20, 2008)

Peter appears to see some of the more traditional aspects of Appalachia and Appalachian culture as ways that sustainability could be achieved in Appalachia. He sees the focus on the outside economy as a distraction and detrimental to the long-term stability of Appalachia. He also views the role that higher education has adopted in the region as being problematic and political in nature, even though he supports the mission of higher education.

John commented on the idea of tourism as development in the region, specifically ecotourism.
We have some other people here, there’s a letter to the editor this morning from Christen Johnson. It’s in the paper this morning, it’s about ecotourism and they’ve written a book on ecotourism but at the same time the governor, mainly the lieutenant governor, are trying to open up Eastern Kentucky to ATVs and all of this other. You see the Ohio [plate] coming down with two ATVs on it and then when you see them leave, they’ve got mud all over everything. She was saying that they’re not very good for ecotourism because they don’t spend anything. They bring their vehicles with them, they bring their gasoline probably. They don’t eat out because they’re too muddy to go into a restaurant. But they’re just saying that that can be really destructive. But the lieutenant governor would like to have designated places for ATVs and hiking trails and all these. Probably on mountain top removal land because he’s in favor of getting that coal out. So it’s a complicated business. (John, personal communication, October 21, 2008)

When John reflected on the present and past economy of Eastern Kentucky, he found it hard to eliminate coal mining noting that:

Somebody has described it as industrialization in rural areas. In other words, coal mining is part of the whole shebang. We had a good guy here named David Brookes. He was an economist, taught here at Eastern a little while and he had a formula… that mining companies coming in and doing extractive work and everything, they ought to have to pay for the inside and outside costs. In Eastern Kentucky there are a lot of small landowners who are either trying to farm or just want things to look pretty good who are against mining, but in the main the old
economy around Hazard is based on coal. It’s hard to be against mining coal if all your relatives make money from doing it or the merchants. That coal has got too much energy in it to ignore, in today’s world. It might be that if we had a million windmills and solar panels and everything, I’m not sure we’d be pleased with how that looked and how many birds that they would kill or whatever. (John, personal communication, October 21, 2008)

John continued to talk about coal and development:

Some people say well, let’s deep mine it. I don’t know the geological factors of whether that’s practical or not. [As opposed to strip mining] [We need] a more restrictive kind of strip mining…some sort of attempt to put the land back to some sort of contour. It’s more complicated than that. But one thing, we’re not willing to pay taxes or whatever to do that and the company’s not willing to do it. The modern economy in this country is based to a great extent on the federal purse and outsourcing. (John, personal communication, October 21, 2008)

John alludes to the long history of destruction in Appalachia and the future of development around the world by both industry and the government:

Conservation gets ignored completely. In development we’ve decided, well I said something years ago when they were talking about strip mining. I said “well don’t worry just about strip mining because we’re going to either flood or pave the rest of it if you don’t want to [mine it]”. Well flooding land is not very popular anymore as it was in the Tennessee Valley Authority when I was growing up. It looked like a good thing and did a whole lot for a lot of people. Well,
development’s wonderful. We’ve had a wonderful life but it was out of proportion to what the rest of the world could do, was able to do, and now they are trying to catch up. I don’t believe it’s going to work if all of China, all of India, all of the third world nations rush or everybody else tries to achieve the standard of living that we have. I don’t believe there are enough resources and energy to try to do that with the number of people there are. I’m afraid, well, I think civilization in some form or at least people will survive but not all of them. (John, personal communication, October 21, 2008)

Ruth’s take on development and how environmental education might affect it is fairly negative. She doesn’t anticipate that there will be a lot of change coming about and sees the dichotomous nature that coal brings to the region. She notes that:

The rest of the country doesn’t want to know what’s happening to the mountains because it would mean having to give up something; it has ever been thus. Could environmental education do anything about that? I doubt it. We have so little money; this is something the media would have to do. Now what we can do, certainly, is begin to teach more and more children about carbon footprints and that sort of thing, but it’s going to have to be, I believe, the media who [make changes]. There’s research that shows that just knowing about an environmental topic doesn’t make you change your behavior. You may know that it’s a good thing to recycle but you don’t recycle until your neighbors do and you feel the peer pressure. So I think it has to be a peer pressure issue. You have to at least believe that everyone else is slowing down their driving and taking public
transportation and doing those kinds of things, and it just takes some pioneers to
do that. The media plays a big role in that….Depending on how this election
comes out, I think by then we should be well on our way, I hope, to better
alternative fuels, in the mean time though we’ll just keep burning without
sequestration. Like I say, our governor, even though he’s very green in other
ways, is not fighting that battle. There’s a coal council in state government too
and where we get $150,000 they get $400,000 to do coal education. My
grandmother told me when I was a teenager, we used to go out for long walks and
we could see a big high wall from where we walked and she showed it to me and
talked about how terrible it was and it wasn’t there when she was a child and then
she said; “and it puts food in your mouth” so there’s your conundrum. (Ruth,
personal communication, October 28, 2008)

Susan’s take on development is based in her experience of the gentrification of Western
North Carolina she described

A half-backer is somebody who is from New England; they move to Florida, they
don’t like it, so they move half-way back! Yeah, Eastern Tennessee, Western
North Carolina, Northern Georgia is half-way back. Yeah, and those big Mc
Mansions and the log cabins, the ones they construct down in South Carolina.
They can’t [local people can’t afford to live there], those people like my
grandmother, who’s lived there her entire existence, I mean, my family has been
there since the late 1700s. Can’t pay the taxes on the property they [are] stuck on.
(Susan, personal communication, February 11, 2009)
Jacob sees development progressing along a given track in Appalachia:

Well, if it’s a completely free-market world, then you have the outcome that you’re already seeing. Those [people] that had a lot of money in New York and Philadelphia, bought everything in Appalachia and used it as a colony. [They] used it as an extractive area that they never had any interest in maintaining [it] forever in any way. And that’s why it looks like it does today. (Jacob, personal communication, May 8, 2009)

As for the future of development in Appalachia, Jacob has doubts:

I’ve been doing a lot of restoration work throughout the mountains of West Virginia. I’ve been working on one project in Wise County and Lee County for about seven years now, doing an ecosystem restoration of some mining areas. And we pretty well cleaned up the mine-related problems, the acid mine drainage problems, the water quality, at least from the mining areas, back up to within premining ranges, often with passive solutions of ceiling and water diversions and things like that, and sometimes with the creation of temporary treatment facilities of various kinds. Anyway, [we] cleaned up the mine-related problems, only to discover that there are underlying and heretofore masked problems of other sort from untreated sewage and unmanaged hazardous waste of other kinds, garbage and that sort of thing, things which continue to keep the system in a degraded condition that are not accessible by any public means, let’s say. They’re not generally fixable by the current political venue. But they weren’t part of the problem statement. It was a mine-related problem, so that’s what we cleaned up,
but now that that’s cleaned up, it’s still a shithole. (Jacob, personal communication, May 8, 2009)

Jacob does see some possibilities and limitations:

Well, there is always hope. And I think it comes out of education and in giving people an honest exposure to the history of the region that you’re talking about, what really happened there. We’ve seen in our own lives a migration of people back to the country, after seeing a migration out of the country…. And they’re coming back, originally, for some fairly – I don’t know if ‘fantasy’ is quite the word, but it’s close – notions about how cool it would be to live the rustic life. A lot of them failed and went back to the city; some of them stayed. Some of them are doing good and useful things being here, and added the intelligence base. Others have just not done too much. There are no expectations! People have got to go where they can make money, and there are limitations in these rural areas. You just don’t have enough of a resource base to support a continually growing population. (Jacob, personal communication, May 8, 2009)

Summation

Development, jobs, environmental impact are all concerns. Growth is seen by most of the respondents as needed but in an environmentally responsible manner. Most of the respondents are keenly aware of the impact of past industrial practices and the ongoing gentrification of the pristine rural areas that still exist. Peter was the only respondent to actually tackle the idea of a sustainable economic system; he sees a revival of some of the older nondestructive resource uses as a possible alternative to the present
destructive processes of resource extraction. Jacob would probably concur with this idea but sees a limit on the population that the region could support this way.

**Sustainability**

The last research question focused on perspectives on sustainability in Appalachia. My motivation behind the question was originally based on my understanding of the relationship between Appalachian local culture and the local ecology. I saw a sustainable economy based in local customs and local ecology as a viable alternative to the extraction economy that dominates most of Appalachia. Issues of sustainability are not neat but can perhaps be summed up as producing a system that preserves the future (Speth, 2008). The participants largely saw sustainability based in the local agriculture and products. Robert, Peter, Susan, and Jacob all incorporate the concepts of localism in their sustainable worlds and believe that Appalachia is very capable of producing much of what it needs. John is a little doubtful about local food production, but doesn’t disagree with the concept. He asserts however that we need to make global changes however to prevent catastrophic problems down the road.

Robert views the localism movement as a possibly sustainable way of living in the world:

But that there are certain practices that were we to bring them back we could live much more sustainably in this region and we can draw on people’s knowledge… to learn more about those techniques. It would be probably a good thing if we were to see a few more chickens in a few more yards around the region. So I think there’s a lot to learn regionally and contextually about sustainability. There are
lots of intentional communities that exist or are being formed or have existed that can provide us models. I think the whole localist orientation… we need to return to [it]. What we’ve built is an economy that is not very resilient so that we’re three days away from a food crisis in this country. What I’m suggesting is that we’ve worked as a culture to become modern and to turn our backs on tradition and meaning. I think what sustainability shows us is that there’s tremendous value in learning about tradition, learning about ways that were once far more sustainable. Not that there was a golden age back in the past where everything was Eden. (Robert, personal communication, July 14, 2008)

Robert’s views of localism are akin to those put forward by Pollen (2008) and Kingsolver (2009) who argue that localism is based in the idea of first using local resources, such as food and materials for supporting economic activity. Many of the participants see localism as the key to sustainability. Robert further sees Appalachian traditions as containing very valuable knowledge about sustainability:

I don’t mean [my grandparents] didn’t shop at Kroger, but they had a big garden and rituals were built around growing that food and cultivating it and then putting it up. My parents, on the other hand, eat out almost every night of the week now. So just within a generation we’ve lost a pretty sustainable localist practice that we need to come back to. So I think there are lots of examples, Damon, for example, doesn’t use the latest arthritis product; he ingests a few berries. He talks about black cohosh for women’s ailments or ginseng for men. So I think there are lots
of sustainable practices to return to. (Robert, personal communication, July 14, 2008)

Robert thinks that modern economic practices are not sustainable and that these practices are damaging to the region and to our health:

It’s leading to incredible health damage; where our choice for cheap food has just deferred the payment which we’ll ultimately have to make insofar as disease and illness and cancer and all those. Shelter, there’s just got to be a better way. We can’t continue to buy two by fours trucked in from China or Canada. We can’t build adobe houses in Appalachia. We can’t build straw houses in one of the wettest locales. So the paradigm really has got to change and it’s got to change not just for this region but for all the regions. (Robert, personal communication, July 14, 2008)

Peter also envisions a sustainable system as being rooted in local resources, ”If we used our public resources to design our systems so that local and regional were valued, then it seems to me we, on a world scale, design a more sustainable system” (Peter, personal communication, October 20, 2008).

Peter also sees a new world view as being a necessary part of sustainability. He also maintains that it is the teacher’s role to bring this view to the classroom:

I think before we’re going to change these structures that we’re talking about now – these patterns and systems and government, institutions and all of these structures, there is going to have to be a spiritual change. People are going to have to fundamentally reject a worldview that says “bigger is better,” “more is better,”
“the goal of my life is to have power over somebody else,” and “status comes from the accumulation of things”. I think that those of us in higher education and certainly, I applied this and have always applied it to the work that I do, have a spiritual message in our teaching. Education has to be about helping students and young people come to grips with these spiritual kinds of questions. (Peter, personal communication, October 20, 2008)

Peter sees this spiritual dimension as part of higher education.

The direction of higher education has become much more towards the accumulation of technical expertise and knowledge, much more toward acquiring the skills that allow you to operate within the system as opposed to examining the spiritual, the nonmaterial, the nonmarket oriented side of life. The more we tend to do that, the less likely we are going to be able, as a society and as a culture, to re-examine where we are. How do you challenge what has become such a powerful and now increasingly global culture with an alternative worldview?” (Peter, personal communication, October 20, 2008)

John has a sense of urgency concerning the environment. He has a larger view of sustainability beyond the local:

I was reading something else this morning… if you stopped right now, if we stop releasing carbon dioxide and if we started planting trees to absorb what it is in the atmosphere and everything, it’d probably take 50 years for you to ever notice it. That’s why it’s so urgent for us to start. (John, personal communication, October 21, 2008)
He also understands the complexities of attempting solutions and how the expectations of Americans conflict with a sustainable world:

Every solution creates a problem. I was talking to a sociologist yesterday about how Americans are different from other cultures. He said that Americans are pretty much unique in that they expect everything to get better and bigger and more productive, whatever it is. But Americans, look at our automobiles, everything had to get bigger and bigger. Our houses had to get bigger and bigger, everything has to be…new and improved larger. That flies right in the face of reality. The world can’t have our standard of living without great breakthroughs in energy and all sorts of things, food, resources. No, I think there’s going to be a train wreck down the road somewhere, either no water, no food, nothing to make anything out of. (John, personal communication, October 21, 2008)

Speaking about the lack of real change, John is a bit pessimistic. For example, he talks about ethanol:

It’s not economical. Our senatorial candidate came the other day pushing ethanol and he knows it’s going to take more energy to produce the ethanol than you’re going to get out of it, at least almost as much because in the first place ethanol has only 80% of the energy output or whatever of fossil fuels. So we deceive ourselves; we’re infinitely capable of being deceived. PT Barnum said “nobody ever went broke underestimating the intelligence of the American public”. That’s a Calvinist view but I think a little bit of the old Calvinism might help especially
this bigger and better and all that. [Wendell Berry] said that Americans are like children. They’ve been spoiled with easy credit, cheap goods, and a lack of every other kind of restraint on their lifestyle. They want to eat out every night if they want to this week. They want to go buy cheap goods at Wal-Mart, they want to get credit cards and run up a debt, and if they buy a car it’s not that they’ve saved up for it, they go down and say: “How much do I have to pay each month?” Credit, they won’t give it up. (John, personal communication, October 21, 2008)

John talks about the relationship of stewardship and sustainability.

My father was a tenant farmer, but he always taught me if you take out of the land you’ve got to put some back. So the manure went on the land and big cover crops of crimson clover and rye he would turn over. He knew that enriched the soil and he always talked that way, that you’ve got to be a good steward of the land. Fortunately for me we did live next to this fellow who would never – I guess he put his manure on the land but no cover crops. He wouldn’t pay for fertilizer; he said, “No I’m not going to buy fertilizer”, so he’d get five or ten bushels an acre whereas my father, well he didn’t get all that much but at least 50 bushels to the acre. [My father] said farming was always a problem because with a hillside plough you were always turning about 10 inches down the hill every year and it wound up at the bottom. It’s nice at the bottom but it was thin on top and there wasn’t much you could do about it except put it in pasture which a lot of Southwest Virginia later did. It’s mostly pastureland now and it probably used to be corn and rye and wheat. But it was more sustainable those days when you
were using horsepower because you’d grow the fuel for the horses and the manure went back on the land. It was a more sustainable way of farming. (John, personal communication, October 21, 2008)

John remembers when tractors became common.

They were fairly cheap then but money was scarcer. Now with Midwest farmers you’re talking hundreds of thousands of dollars for combines and tractors and whatever else, and all these things. Yeah and then you’re also using a hell of a lot of fuel. I said ethanol would be fine if you grew the corn with horses and if you cooked it off with solar power. (John, personal communication, October 21, 2008)

John sees our current economy as not being very sustainable.

Its [local food production] highly desirable and [it is] unlikely I think. We’ve got some semblance of it though with farmer’s markets and with local grocers. I think America was built so unwisely based on fossil fuels and automobiles and suburbs and everything that it’s unlikely that we’ll have much of that unless we really are so restricted that we think carefully before we drive long distances or haul things long distances. In Fayette County, Kentucky, there are enough farmers to feed Lexington, pretty much where it doesn’t have to be shipped in from Mexico or Venezuela, something I think it might make some sense….But I think that [is] moral issue and Wendell talks a great deal about better nutrition and all of this. It makes some sense and we ought to be thinking about how we can do that locally as much as possible. (John, personal communication, October 21, 2008)

However he is still critical of some aspects of concerning organic farming:
I think so much of this organic stuff is a sort of hippy oriented. My daughters are sort of hippy and I sort of admire them in many ways but a lot of it is idealistic. I can’t get over the notion that whatever the plant can utilize and make fruit out of is probably just as good as if it were cow manure and chicken shit, that sort of thing. It’s a chemical and things can be chemically identified and even made….Spraying a lot of poisons and everything, that’s another matter. On the other hand all my apples back here…they’ve got worms in them and that’s alright. I’m not going commercial or anything but it’s the fact this is a lousy climate for any kind of fruit. We get it [good weather] about once every five years. This year was a good year and we probably won’t have any more for a while. A lot of that stuff is romantic I think. Now…that locally grown tomatoes are better than those hard things that have been engineered for longer life and everything. But I don’t think I’m going to worry that much about whether somebody’s using chemical fertilizers or cow manure. (John, personal communication, October 21, 2008)

John also sees some problems in the coal fields in relation to sustainability.

We need to come to some compromise on how we can best restore the land so that it’s useable or productive either for timber or for grass or whatever. I hate the idea of taking a beautiful environmental system and some kind of balance and just completely demolish, saying well we need level ground. Well I’m not sure how much level ground we need and those people ought to move to New Mexico or somewhere flat. (John, personal communication, October 21, 2008)

John does see the present economic system as being unsustainable.
The young people coming along need to know the dire necessity of understanding that [the lack of sustainability] and the world situation and how we can survive. I think it’s not so much as how our economy can grow at this point; I think we need a sustainable economy that maybe will be better some years than other years. This idea of constant growth in order to create jobs and most of the people using that word job are the conservatives who primarily support corporations. So they’re not really talking about jobs; they’re talking about people making money and in the process of making money they hire some people. But if they’re not doing that so Joe the plumber up here can a have job; I just sit there and grit my teeth when I see somebody talking about jobs and the president does. (John, personal communication, October 21, 2008)

John refers to Wendell Berry and his approach to sustainability, noting:

He’s also harking back to an old rural, really Christian, quite spiritual approach to responsibility. He’s the most moral man I know. I’m not saying it’s practical in this day’s world or many people are going to embrace but he’s the most thoroughly decent person I know. We could do a whole lot better in many ways. I think the farmers may the best of a clue to this but I noticed they’re charging quite a lot of money, particularly for this whole idea of organic and they’re trying to quantify or identify organic and nobody seems to know much what it means. (John, personal communication, October 21, 2008)

John reflects upon life on the earth and human responsibility
I think I’ve poisoned my garden and I’m just going to quit. I’m 80 years old. I don’t need to be gardening but I just have that urge every spring. That dominion over the earth which is the worst thing that got into the Bible I think. You hear so many people say well God let that grow there and he intended for us to use it. Well that’s one problem I think with fundamentalist religion, this idea that there is a God sitting up there and before the beginning of time he’d say “well we’ve got this coal in here, we’ve got to have all of you”. Now, he’s sitting up here in judgment on whether we’re making the proper use of it all. (John, personal communication, October 21, 2008)

John reflects on the American way of life:

I don’t believe there are enough resources and energy to try to do that [achieve the United States standard of living] with the number of people there are. I’m afraid, well I think civilization in some form or at least people will survive but not all of them. Think of what that means if half the people starve to death or are fried in the world that is no longer livable or parts of the world at least. I don’t know. Maybe I’ve read too much about global warming in one thing or another but it seems to me we are playing havoc with the planet and we’re too greedy…. Anybody running for President in this country [who implied] that we’ve got to cut back and we’ve got to think about the rest of the world…would go down in great defeat against the McCain or a Reagan type person saying all our best days are before us. (John, personal communication, October 21, 2008)

Susan relates sustainability to food and survival and the local:
Sustainability is the fact that one can survive without the material possessions that define who we is, or who we are as a person, status wise. Sustainability, for me, was always growing up knowing that Nan and Papa had a garden, and... I’d never starve to death. I might wear some clothes with some holes or stuff, but it was some patches or whatever, but I was never going to starve to death. So, sustainability, for me, is about surviving. (Susan, personal communication, February 11, 2009)

She also grew up gardening and reusing objects, which she sees as an important part of sustainability:

If push came to shove, I know how to go out and hoe a row and plant some food, plant some vegetables and stuff, and recycling. That’s the other thing about sustainability. You know, my grandparents taught us how to do that, and it is just this miraculous thing that I can think about the fact that I can take clothes that have holes or they’re worn out, and I can rework them. (Susan, personal communication, February 11, 2009)

Jacob describes what he understands as environmental sustainability, which he describes in terms of adaptability:

Seeing how the world works, not just making a left-handed quarter-inch screw, which may satisfy a particular problem in how the world works, if there’s a good demand, but you didn’t create that demand, you’re not part of it, and if that demand goes away, you perish. Adaptability is incredibly important. And I look around in the real world, and I see models of adaptability all over the place. And
as I begin to understand the relationship between these things… the places, the animals, the rocks and the air, sunlight, energy inputs of all kinds, participate in creating a particular reality that I live in and try to observe and understand at any moment. But if you’re going to live down here, if you’re going to live in this place, and prosper and work in this place, you do need to do something about it. You need to know what you can do there for your own sustainable existence, whatever it might be. (Jacob, personal communication, May 8, 2009)

Jacob is speaking about what he sees as sustainable practices in Appalachia:

The first things that come to mind are relatively low-density, individualistic kind of approaches. I mean operating like farmers who lived here prior to the major extractives. Resources, that was the model that worked for 200 years before the mining and the timbering began. I mean, it worked, because it was low density. Because you could find all the resources you needed to sustain your little operation, your little family or whatever, within a relatively small area around you. The landholdings were large, hundreds of acres. I don’t know how we could go back to that, because of the increase in the number of people. People have got to go where they can make money, and there are limitations in these rural areas. You just don’t have enough of a resource base to support a continually growing population…. Athens County could be a completely self-sustaining activity, if it wanted to be. If they were all by themselves in a universe, there’s enough water, resources, timber resources, energy resources, for the current
population, and to make a living here. (Jacob, personal communication, May 8, 2009)

Jacob talks about the relationship between the local and the larger economy in relation to sustainability in agriculture:

It’s all linked to the economy, and the linkages that are within the economy. I did a paper 30 years ago, when I first came to Athens County, taking an agricultural geology course. And the thing I looked at was the decline of agriculture in Athens County. And I just picked one area, and I looked at the area around Nelsonville, the rural townships, essentially, and looked at old maps, and looked at differences in land use and talked to people and saw that there had been a significant decline since World War II in the agricultural base, for example, in Athens County, that Athens County and York Township and Waterloo Township had dropped out of the national market in almost everything. But the agricultural market, they never have gotten back into again, and it declined because of the national policy. I did a project in the Red River on flooding problems up there and traced the flooding problems back to the fact that marginal prairie steep lands and prairie wetlands had been turned into cropland during the same period that agriculture had declined here. And the reason that they got turned into farmland out there was because of the national policy to reduce the price of agricultural commodities across the board by increasing the arable land base and particularly that arable land that could be farmed mechanically, strictly mechanically. So the areas in North Dakota and South Dakota and western Minnesota and north-eastern
Iowa, parts of Montana, which were tall grass prairie, and essentially wild, were converted into mechanical croplands, and completely destroyed the water-holding capacity. It was done during the Nixon administration. During the Cold War, a method of running the Russians out of business was to run the price of agriculture products down. They were running off their wheat market, and we made their wheat market almost not worth planting. And that’s what whipped them. And a lot of people don’t know this story. And frankly, I didn’t, until I got into it, and began to just follow the trail from, “Why ain’t this working here?” up drainage to Earl Butts and Richard Nixon. I’m serious! The decisions that were made to do this, which now I link all the way back to Athens County and places like Athens County that got out of the agricultural business. (Jacob, personal communication, May 8, 2009)

Speaking further about local agricultural production Jacob noted:

There are people trying to come back with various agriculture methods, herd dairy farming was probably pretty tough on Athens County, but people did it. But there are ways to do some kind of agriculture here. A lot of people come back with goats, for example, which don’t require nearly as much area. But I mean, there are ways to do sustainable, local agriculture with, a local market. We got all of our eggs, milk, chicken, much of our beef, much of our vegetables locally [growing up in Ohio], right. I mean, a farmers’ market was really a farmers’ market. That’s where you went and bought things, and you lived on those things. (Jacob, personal communication, May 8, 2009)
Jacob reflects further on his personal connection to agricultural decline.

Somewhere around in my childhood, in the mid-sixties, we began living more and more out of cans than we did out of the local food base, out of prepackaged stuff. I think that’s a trend. Everybody started doing it. And over that 20-year period from 1960 to 1980, I think all the local agriculture bases were pretty well degraded. People are starting to realize I think and some environmental education…is for people your and my age, …reading things like ‘The Omnivore’s Dilemma’ and things like that, that stress the importance, from an economic standpoint, of buying locally and eating seasonally, and all these sorts of things. I mean, those are important not just in Appalachia but anywhere.  (Jacob, personal communication, May 8, 2009)

Jacob does qualify what he sees as a sustainable agriculture and living.

I don’t think that you could make Eden every place. I think resources still drive what you could sustain. The word “sustainability” kind of grinds on me sometimes, because people use it like a mystical word and don’t realize the downside of it. Sometimes, sustainability says, “Don’t go there.” Well, you can’t live in Las Vegas. Yeah. You and two other guys in the whole County [could live in Las Vegas] and that’s about it! But to sustain a city there, it takes a lot of artificial energy inputs and income.  (Jacob, personal communication, May 8, 2009)

Jacob views cap and trade as an aid to suitability.
A cap in trade, I’ve looked at the economics and a discussion of that....There’s a real potential to have influences in the way some place like Athens County or Vinton County would be operated, these areas that could become carbon trade areas. Carbon mitigation areas; which you could sell. And there’s a whole economy around forest carbon sequestration management. And most of the people thinking about it are pretty high level Ph.D.’s. But they’ve worked extensively on it – and I’ve read a little bit of it – it’s a language that people ought to get to know and understand, because it has a real potential to be a moneymaker in areas like this. Well, you can’t do much else with it anyway…. I could put together maps today to show you where the forest resources are in Athens, where the mitigation areas could be, where the long-term sequestration areas are more likely to be, and that sort of thing. And delineate these areas and say, if you own land in that area, maybe we’ve got something to sell the world. (Jacob, personal communication, May 8, 2009)

Jacob elaborates on what he sees as building blocks for a sustainable economy in Appalachia. He asserts that:

All sorts of local things you could do. There are lots of forest products that can be harvested. It’s the same thing with coffee. You know, originally, coffee was all forest grown, grown under the canopy. And I’ve been to some of those coffee plantations, and they are— you can’t tell they’re there. They don’t cause big erosion; they don’t cause a big restructuring of the animal populations, because they’re under a regular forest canopy. You go through a coffee plantation and it
looks like this, only the trees are bigger. But underneath the overstory, the stuff that is spice bush and honeysuckle [here] is coffee [there]. But you can’t pick it by machine because you’ve got all these trees you’re working in and out of, so you’ve got to send in the coffee pickers and they do it by hand—coffee, up until the last two decades, virtually all coffee, was grown that way. Now they have completely open, cleared-out coffee plantations where they grow the “robusto” coffee and the stuff that will stand the sunlight, and it’s a completely different substance. I was shocked at the taste of coffee. I had a cup of coffee made from coffee beans picked and dried—You know, they got them out of the bin and made the coffee with them right then. And it’s a whole other substance. So, you know, I’m for that mountain-grown, forest-grown coffee. Because it tastes different and it just kicks your arse, too! I had a little cup like this, and I was like, “Wow!” Anybody want to build a house? Let’s write a paper! (Jacob, personal communication, May 8, 2009)

Jeanie is a little less authoritative on the topic of sustainability yet sees a definitive cultural connection.

I need to learn more about this question—cannot yet answer with authority. I want to do more exploration of alternative energy sources [wind, solar] and I know in my heart of hearts that an energetic investment in Appalachian arts, literature, music and folk culture is linked to the idea of shared values regarding sustainability. We can “educate” people about topics and problems, but to inspire them feel and believe and search, we must risk relationships that transcend texts.
How can we invite true coalition? Only in the locally lived experience students can “live” Appalachia when the structure for education is viewed as organic…when spontaneous learning is viewed as valuable…when relationships between teacher, student and citizen reflect interactive accountability. (Jeanie, personal communication, June 5, 2009)

**Summation**

Sustainability is seen by all the participants as being a laudable goal they also seem to agree with the idea that a change in direction is needed for our future viability. Most of the participants see local production of agricultural products as part of the sustainability picture along with the production of other goods and services. There is also some agreement that a spiritual component is needed to affect a sustainable future which is agreement with many writers on the subject (Speth, 2008).

**Cross-case Analysis**

Patton posits that cross-case analysis can be preformed by starting a case study for each person or unit studied. This is followed by a cross-case analysis of the case studies. It can also be performed by grouping together responses from different people to common questions (Patton, 1990). The following list of themes and categories emerged from the responses to the original questions and responses concerning environmental education. I went back to the original interview transcripts and using the list of themes and categories did a cross case analysis looking for responses aligned with the following. The category of Interconnectivity defined as examining relationships between ideas, was composed of themes concerned with dialectic connections and environmental
interconnections. The category of Social Justice which was composed of themes concerning social issues and the environmental theme of repercussions of activity, were social justice is defined as social equitability. The Eco-environment category which looks at the relationship between the environment and human action consists of themes which represent those issues. Personal Environments represents the human factor in environmental education and themes that reflect that idea. Natural vs. built environments as a category relates to man made or the built environment and its relationship to the natural environment. After developing a new response list for each individual, I then analyzed the responses. I tabulated each instance of each category and theme within the responses of each individual. I analyzed the tabulation of categories and themes and produced a series of charts that illustrated visually the findings.
Table 1

Cross Case Analysis

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<td>c. Insider/outside</td>
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<td>d. Us/Them</td>
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<td>b. Appreciating difference</td>
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<td>c. Shared spaces</td>
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4. Personal environments
   a. Eng tech vs. rel with tech
   b. local environs relative needs
   c. restoration, preservation, sustain
   section totals
   % 0f total

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<td>b. local environs relative needs</td>
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<td>c. restoration, preservation, sustain</td>
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5. Natural vs. built environments
   a. Structural variations
   b. Disciplinary perspectives
   c. Family, community, political
   d. Ways we tell our stories
   e. Sustainability
   f. Economies
   section totals
   % 0f total

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Table 1 shows the breakdown by category and theme for each respondent based on the number times each respondent stated a particular theme. The theme of family, community, political in the category of natural for example had a total of 6 incident scores by respondent # 4. These scores are represented by the following charts.

The first chart titled Environmental Education illustrates the breakdown of the categories by section.
The figure illustrates the following percentages of the total response for each thematic category. Interconnectivity 15.4%, Social Justice 16.8%, Eco Environment 13.7%, Personal Environment 26.3%, and Built Environment 27.7%. The chart shows that the responses were weighted towards the Built Environment category, followed by Personal Environment, Social Justice, Interconnectivity, and Eco Environment. As one analyses each category one finds the themes that dominate within the categories. I will start with Interconnectivity and follow the order of categories as they were originally analyzed rather than the frequency of response.
Figure 3. Interconnection

Looking at the Interconnection category, the theme of the interconnection of people, places and things was the theme that by far garnered the most responses. This theme is concerned with the interconnections of place, people, the natural and the built environments. This theme is theoretically grounded in ecological systems web theory. Webs are the interconnected systems such as the nitrogen cycle or carbon cycle, and illustrate how different niches are occupied and perform within the cycle. The idea is that human systems interact with each other and with nature and produce complex adaptive results. St Clair (2003) speaks about how we should “look at the “connective way” life has evolved, which St. Clair characterized as an “eco-feminist perspective” (p. 74). Hill and Johnston (2003) have defined “deep ecology” as a different way of thinking about the natural world, which they define as recognizing the “fundamental interdependence of all phenomena.” The other themes represent the dialectics of Appalachia and represent the
more social side of interconnection. Past and present speaks to the dialectic in Appalachia between the past and modernity. Insider outsider concerns the difference in viewpoints between those from inside the culture to those from the outside. Us and them is also concerned with the familiar and the stranger, as is similar and different.

The next category is concerned responses of a social justice nature. The theme within this category that appeared most in the narratives was the idea of concerns with human activity and its effects on the human environment, the natural environment and the social justice implications of those effects.

![Figure 4. Social Justice](image)

The responses reflect the idea that there is a strong connection between social justice and human activity and that much of what we do lacks a social conscience. Hill (2003) posits that environmental justice is defined as equitable protection from
environmental impacts for all races, ethnicities and socioeconomic groups (p. 27). While the other themes represent social justice issues the repercussions of activities represents the environmental tie. Valuing world views concerns respect for other cultures, and is very similar to appreciating difference. Shared spaces also speak to the idea of respect for others in our existence. The next category is concerned with the human response to the natural or ecological environment.

Figure 5. Eco Environment

The overwhelming response to this line of inquiry revolves around the theme of stewardship. I find this interesting in that stewardship has a definitive spiritual or moral undertone in its makeup. This undertone is best illustrated by the following quote:
I think before we’re going to change these structures that we’re talking about now – these patterns and systems and government, institutions and all of these structures, there is going to have to be a spiritual change… Larger and larger numbers of people are going to have to fundamentally reject a world view that says “bigger is better”, “more is better”, “the goal of my life is to have power over somebody else” and that “status comes from the accumulation of things”. (We need) to reject that world view and to look at the world in a very different kind of way. (Peter, personal communication, October, 2008)

Hill & Johnson (2003) argue “…that taking responsibility for preservation and restoration of the natural world is a spiritual act that can rejuvenate our humanity and dispel that loneliness (pp. 22-23)”, reinforcing the spiritual side of stewardship.

While the other themes speak to the relationship between man and nature, stewardship adds a moral aspect to the relationship. Change /same describe changing the environment versus leaving it alone. Natural adaptation and forced concerns allowing a natural solution to appear opposed to forcing a change. Viewers versus owners describe those who want to approach the natural world as an object of admiration versus those who must live in it. The Personal Environment category is concerned with the individual’s response to the environment and what is seen as important.
Action for environmental restoration and preservation and understanding towards developing relationships were both seen as important. The latter is a more proactive idea in that the development of our thinking about the environment prevents the need for clean-up and restoration work and acts to preserve and sustain the environment. Orr (2002) states that:

How and how intelligently we weave the human presence into the natural world will reduce or intensify other problems having to do with ethnic conflicts, economies, hunger, political stability, health, and human happiness. (p.15)

This statement reinforces the idea that understanding the environment and our place in it will lead to less need for restoration, since we will learn how to exist with
fewer disturbances to begin with. Engineering technologies describe the engineering approach or man-made solution to the environment and environmental utilization compared to our lack of a relationship to those technologies. The solution is based in the scientific approach to problem solving.

The last category to be examined relates to natural v built environments. Orr (2002) calls for systems designs that mimic natural processes rather than removing them from the existing biological systems. The responses reinforce the concepts that sustainability and the economy must reflect both the natural and built environments. This concept is also tied to the idea of place based responses to challenges. Or as Bowers (2004) states, “…sustainable development is always situated in a particular culture and bioregional setting” (p.200)

What is most illuminating is the large response to the theme of family, community, and political systems and how these should reflect the natural as well as built environment. This reaction is homage to place, culture, and the natural environment as balances to our built environment. The other themes represent other solutions to the relationship between the natural and built environments. Structural variations, disciplinary perspective and story telling all relate to formation of arguments as solutions to problems.
Figure 7. Natural vs. built environments

Summation

The Cross-case analysis shows that the responses to categories were weighted in order towards Built Environment, Personal Environment, then Social Justice, Interconnectivity, and Eco Environment. The themes that were most important were ones that dealt with relationships between people place and the environment within those categories. The themes are the family, community, and political theme, making sense of the local environment in relationship to personal needs, the repercussions of activity, the connection of people and places and stewardship. The importance of all the themes is their reinforcement of the human environmental relationship and how important this is to Appalachia.
While the respondents speak to other issues they clearly are drawn to the conclusion that environmental education should be based in justice, place, environmental and personal accountability. Bowers (2001) put it this way:

The identifying characteristics of an ecologically informed approach would start with learning the speciation in the bioregion, along with an awareness of how the experience of place has been narrated by previous generations, which constitutes a more experiential approach. (p.257)

The study also illustrates and confirms the connections between environmental education, culture and place at least in the Appalachian region. I would contend that Appalachia is not unique in this, but that all culture is based in place and that environmental education methods are apropos for education and development methods. The broader application of these conclusions is that communities that express themselves largely through indigenous worldviews should confront the world and their developmental priorities using paradigms that align with environmental education.
Chapter Five: Summary, Implications, and Conclusions

Summary of Chapters

Chapter one outlined the historical background to the study pointing out how some of the conditions in Appalachia evolved and how they exist today. It also listed the questions that evolved out of the background and literature review.

The overarching research question is whether a sustainable Appalachian perspective can serve to anchor an educational and developmental system that meets the needs of the Appalachian people. I have attempted to engage that question through the following questions:

1. How does Appalachian studies relate to the region?
2. How does place relate to Appalachian culture and how does it express itself in that culture?
3. What are the connections between environmental education and Appalachia?
4. How can we engage the questions of development, sustainability, and environmental justice in the Appalachian region?

Chapter two is made up of three sections: the history of Appalachia, the history of Appalachia and education and the theory of Environmental Education and Place. Chapter Two points out the conditions in Appalachia that generated underdevelopment, lack of educational achievement and overall malaise in the region despite years of interjection by the federal government of outside funds. (Shaw et al., 2004; ARC, 2009) Aid to Appalachia has failed to dramatically change these conditions. This is not saying that Appalachia has remained static or is a place somehow trapped in its past but, rather, that
the efforts made have somehow missed the mark and failed to lift the region up out of its economic and social doldrums to some status alongside the rest of the United States (Shaw, et al., 2004; ARC, 2009).

The search for regional betterment includes the work done in Appalachian studies (Lewis, 1981) Appalachian studies has paid respect to the local; it has not brought about an apparent social economic revolution to the region. I believe this is due not to the lack of good will or intention but to its inability to bring about substantive positive economic change in the region. Well- intentioned people have brought more federal aid to the region, which has led to the blossoming of bureaucracies and agencies specializing in managing such aid but not the development of private enterprises that would generate new sources of income (ARC, 2009).

Private development has remained locked up in the hands of the same interests that have dominated the region for the last 150 years, extractive industries like the coal and timber businesses as well as polluting chemical, industrial, manufacturing, nuclear, and solid waste industries that could not be located elsewhere (Eller, 2008). These private industries represent some of our worst polluting and environmental degradation industries. Appalachia seems to be caught between being a welfare case or an environmental disaster. This brings us back to the concept of a sustainable economy that produces real wealth and is environmentally acceptable as an alternative to the status quo and the question of how it might be incorporated into the educational, developmental and cultural systems of the region (Eller, 2008).
Chapter three describes the development of the research instrument and interview process that was used to develop the data for the study. I used purposeful sampling of a select group of individuals for interviewing based on their expertise in the subject area. I followed a method called naturalistic inquiry, which allows information to flow. The study itself is a qualitative study which uses data developed from interpretative rather than numerical sources.

Chapter four looks at the responses of the participants to the research questions. The responses to questions about Appalachian studies and Appalachian culture fell into two camps, differing based on the importance the participant paid to the cultural reality of Appalachia and the importance of that culture. While both views see Appalachian studies as important to regional improvements, they do differ about the importance or uniqueness of the culture and consequently what should be included in Appalachian studies.

The respondents agreed on importance of place, environmental education, and environmental justice to Appalachia. They saw place as a human-centric need and most felt one very important to Appalachia. They were in agreement with the idea that Appalachia has been an area that has suffered environmentally and saw environmental education as an important component of Appalachian studies.

The participants differed slightly on their ideas of sustainability and development, with some believing that it will be almost imposable for the region to divorce itself from the old extraction industries. Others saw a sustainable future possible in agriculture and development of more localized industries. There was also some inference that a change in values was needed to provide for a sustainable future.
Understanding the reality of Appalachia today begins with recognition of the present state of environmental degradation. The responses concerning the state of the existing environment is encapsulated in the responses elicited via the environmental justice theme. It is perhaps best characterized by Robert’s response:

There’s an enormous environmental history to be written still about Appalachia. Today there’s a tremendous environmental destruction occurring in the region….I see, mostly injustice based on class and sometimes race. So I would say I see very little environmental justice. We could write books about environmental injustice in Appalachia. (Robert, personal communication, July 14, 2008)

Robert sees Appalachia as a scene of “tremendous environmental destruction”.

Jacob also sees the situation as an environmental disaster and in essence predicts the continuation of the status quo noting that:

Within the last 100 years, it [Appalachia] has been operated as a resource extraction, so not an area where you consider a sustainable population or a sustainable anything. Nobody thought about sustainability. We’re going to cut timber till the timber’s gone, and then we’ll quit. We’ll mine coal until the cost of extraction exceeds the market value, and we’ll quit. We’re going to dam the rivers until we run out of rivers to dam, then we’ll quit. And whatever the outcomes, that’s got nothing to do with us. And that’s the way the area has been treated for the last 100 years…. (Jacob, personal communication, May 8, 2009)

Jacob’s critique also points out how far the norm in Appalachia is from any sustainable future. That lack of sustainability points to a future with very little hope. A place having
been fully extracted leaves almost nothing for the future residents. This is the apparent future of Appalachia should nothing change: a place of environmental degradation, environmental and social injustice, and a sacrificial zone to support the larger economic system.

So what is a sustainable economy and how can a sustainable economy be built? The participant’s responses to this question almost universally included the issue of agriculture. They saw sustainability in Appalachia being tied to local systems based in sustainable agriculture, forestry, and so forth:

Robert: I think the whole localist orientation… we need to return to [it]. What we’ve built is an economy that is not very resilient so that we’re three days away from a food crisis in this country. (Personal communication, July 14, 2008)

Peter: If we used our public resources to design our systems so that local and regional were valued, then it seems to me we, on a world scale, design a more sustainable system. (personal communication, October 20, 2008)

John: Its [local food production] highly desirable and [it is] unlikely I think. We’ve got some semblance of it though with farmer’s markets and with local grocers. I think America was built so unwisely based on fossil fuels and automobiles and suburbs and everything that it’s unlikely that we’ll have much of that unless we really are so restricted that we think carefully before we drive long distances or haul things long distances (personal communication, October 21, 2008)
Susan: Sustainability, for me, was always growing up knowing that Nan and Papa
had a garden, and… I’d never starve to death. I might wear some clothes with
some holes or stuff, but it was some patches or whatever, but I was never going to
starve to death. So, sustainability, for me, is about surviving. (personal
communication, February 11, 2009)

Jacob: But there are ways to do some kind of agriculture here. A lot of people
come back with goats, for example, which don’t require nearly as much area. But
I mean, there are ways to do sustainable, local agriculture; with, a local market.
We got all of our eggs, milk, chicken, much of our beef, much of our vegetables
locally [growing up in Ohio], right. I mean, a farmers’ market was really a
farmers’ market. That’s where you went and bought things, and you lived on
those things. (personal communication, May 8, 2009)

This idea of local production of food and the subsequent regional food security and its
ties to sustainability is a key concept coming out of my research. There is also a moral
tone present. As Orr (1992) says, concerning agriculture and culture, following the ideas
of Wendell Berry, “Ultimately sustainable agriculture will depend on those individual
and cultural factors that produce good farmers…education, child-rearing techniques…
economic policies that reward stewardship” (p. 173). Similarly, John states:

My father was a tenant farmer but he always taught me if you take out of the land
you’ve got to put some back. So the manure went on the land and big cover crops
of crimson clover and rye he would turn over. He knew that enriched the soil and
he always talked that way, that you’ve got to be a good steward of the land. (John, personal communication, October 21, 2008)

In referring to the educational component of addressing the future, Peter insists:

I think before we’re going to change these structures that we’re talking about now – these patterns and systems and government, institutions and all of these structures, there is going to have to be a spiritual change. People are going to have to fundamentally reject a worldview that says “bigger is better,” “more is better,” “the goal of my life is to have power over somebody else,” and “status comes from the accumulation of things”. I think that those of us in higher education and certainly, I applied this and have always applied it to the work that I do, have a spiritual message in our teaching. Education has to be about helping students and young people come to grips with these spiritual kinds of questions. (Peter, personal communication, October 20, 2008)

Orr (1992) agrees writing, “Sustainability, I think will require a considerable increase in virtue throughout society…motivated by a sense that their well being is linked to that of others and to other life-forms” (p. 182).

Thus sustainability is seen as having physical and moral aspects. It in a sense represents a cultural reality producing both artifacts and precepts. The road to sustainability is to be built through changes in the local culture, building belief and faith in a different way of examining the world. This journey may be begun through education. Orr (1992) states: “Education relevant to the transition to a sustainable society demands first, an uncompromising commitment to life and its preservation” (p. 133). My research
shows a very direct connection between Appalachia, Appalachian studies and environmental education. The research perhaps connects to the “uncompromising commitment to life” idea.

Robert’ response to the questions speaks to place and environmental education, “I think there’s an enormous connection, but I think there’s an enormous connection between any particular place and environmental education” (Robert, personal communication, July 14, 2008).

Concerning Appalachia and environmental education Peter states it involves how: We relate to this landscape. How we relate to water. It’s the environmental thing. I am absolutely convinced as a historian that those cultural values that emerged in the mountains were in many ways, a product of that relationship to the land and as that relationship to the land changed over time so did those cultural values. (Peter, personal communication, October 20, 2008)

Ruth values the connections learned between life and the environment, in a sense speaking to Orr’s observations:

It is an issue for us but one of the things that we find is that when you can get students really involved in doing research on their place then they immediately see the connections…. If you can get teachers and principals to let kids actually go out into the environment it’s very hard for them not to see the connection. (Ruth, personal communication, October 28, 2009)

Jacob’s take on existing environmental education is that it is removed from local connections:
A lot of education right now, environment education, is fairly global, at least in the introductory levels. And I look at what they teach, for example, at the local school. There’s nothing that they teach that is applicable locally. Nothing, absolutely nothing, I can tell— it doesn’t particularly make sense, but it is driven by a system that is external to the powers-that-be. (Jacob, personal communication, May 8, 2009)

So the data show that there is a local connection seen that needs to be presented educationally. However, it is only being presented in a very limited way through existing environmental educational programs. As Ruth points out, this is often due to “Political considerations… they don’t address such as mountain top removal, acid mine drainage, the more controversial things, but they do teach the basics (Ruth, personal communication, October 28, 2008). Yet, the interconnected issues cannot be ignored. In speaking about the local, Berry says, “That we and our country create one another, depend on one another, are literally parts of one another…therefore our culture must be our response to our place, our culture and place are images of each other and inseparable (Berry, 1977, p 22).

The data show understanding of the connections between the local, Appalachia as the local and environmental education needs. Jacob asserts that the history of Appalachia “is inevitably related to the form of the land, and the people that lived on that land… it’s completely, completely, in my mind, geography-driven (Jacob, personal communication, May 8, 2009). The local is expressed in place. Place according to Gruenwald can be the basis for a curriculum, what he calls a critical pedagogy of place.
Gruenwald (2003) lists several practices that could be used to form a critical pedagogy of place. These include using studies of the local culture and local ecology, engaging in community problem solving, connecting students to businesses through local internships, connecting students to community decision making, and examining student experiences through the lens of cultural and ecological politics. Gruenwald (2008) writes:

Place is essential to education, then, because it provides researchers and practitioners with a concrete focus for cultural study, and because it expands the cultural landscape to include related ecosystems, bioregions, and all the place-specific interactions between the human and the more than human world. (p. 143)

This paradigm as presented by Gruenwald is essentially what Jacob is driving at, as is Berry. Place is the human understanding of our physical and intellectual environment that shapes our cultural underpinnings. This can of course be applied to a non-rural environment as well. It would be remiss to leave out the urban environment and how it affects culture and life within its confines. However the bioregional aspects of place of Appalachia that have been neglected as part of Appalachian studies and as a result Appalachian studies has been the poorer for it.

Place then is, as Susan states, wrapped up in a sense of “this self-worth and self-identity that is so intrinsically linked with family and place” and “as long as you have family and you have a roof over your head and a garden to grow a few things” (Susan, personal communication, February 11, 2009). The physical environment and the built environment produce “self-worth and self-identity,” the denial of which is the denial of those strengths which make it possible for us to go forth into the world. So place becomes
the basis of strength as is being part of family and the familiar, and the degradation of place is the degradation of identity.

Thus, place is a construct we produce that becomes a part of our self-identity. What perhaps is not as obvious are the connections between place in Appalachia and environmental degradation and sustainability. Although Appalachia is perhaps one of the most diverse natural environments in the United States, because of past timbering, mining, and industrial practices is also one of the most degraded. Given the sense of place that all of my participants agree is a part of the regional psyche it is difficult not to speculate about that environmental degradation’s effect upon the regional self identity and self worth. It would follow that industries that produce goods and services that were sustainable and not damaging to the local bioregion could spark a development of self worth and greater pride in Appalachian identity, an identity that has long been associated with poverty and ignorance instead of self-reliance and inventiveness (Reck, et al., 1993: Eller, 2008)

The cross-case section of Chapter Four confirms that the data shows that environmental education should be based in justice, place, environmental and personal accountability. The section illustrates and confirms the connections between environmental education, culture and place at least in the Appalachian region. It states that those people whose worldview are of an indigenous nature are also subject to these connections. So how can these connections be used? I have proposed using environmental education as the paradigm for developing a system of a sustainable
economy. Starting with an analysis of the existing economy I have developed a theoretical framework on the postmodern economy as shown in the figure below:

![Diagram of Postmodern Economy Model](image)

*Figure 8. Diagrammatic Representation of Postmodern Economy Model*

The postmodern economy of today, which is a globalization of the industrial economy of modernity, becomes the driving force behind culture, education, and development. The environment then bears the burden of the policies developed in the areas of culture, education and development. The artifice of the economy supersedes the natural world as the determinant of how life will exist in the natural world. Any Western industrial economy can be modeled using this diagram. It is also clear that the limitations of this system are the limitations of the environment to absorb the assault of economic system. This system is not sustainable due to the finite natural world.
A sustainable economy has its origins in the environment of the particular place in which it occurs. If we look at the relationship arrows (Figure 3), we see that all relationships are represented as being interdependent or two-way. The size of the arrow points indicates the direction and magnitude of the interdependence. A sustainable economy has the environment as the determiner of the starting point with culture, education, and development deriving their direction from the environment and having feed back effects on the environment in a limited manner. The economy of the region is then determined by the interaction of the region’s culture, education, and development. While the economy, through its interaction outside the region, will have a feed-back on culture, education, and development that feedback is not dominated in a sustainable economy.

The implementation of the sustainable economy requires the questioning the basic premises of the postmodern economy. I believe that environmental education allows the
student to get outside of the postmodern view in order to question it. Perhaps we can’t understand we live in an unsustainable economy without getting outside of it. In addition, an obvious criticism of an environmental based economy is the incongruence of the postmodern industrial lifestyle with that of the hunter-gatherer lifestyle, the hunter-gather society being the only society to-date that is sustainable. An environmentally based economy would require going backwards to some stone-age existence and giving up for example the washing machine.

An environmentally based economy really acts through the culture to influence the society educationally and developmentally. In a sense, it accounts for the damage or impact of human activity that the monetary based or postmodern economy ignores. This accounting forces members of a society to face real choices about the production and use of that hypothetical washing machine based on its upstream consequence rather than as a downstream waste product. Given the true costs of its actions, society can make an informed choice and decide what costs it is willing to pay for a commodity. In a real sense, the environmentally based economy should be a liberating economy not a limitation economy. The economy is freed from the blind hand of market forces and replaces monetary valuation with societal benefits as the basis of evaluation.

As we observe Appalachia and the devastation that modern and postmodern economies have brought, both to the people and the land, the idea of a new paradigm for an economy seems appropriate. Bringing the sustainable economy of place, through environmental education, to the platform, from which culture, education, and development spring illustrates a new paradigm. I contend that due to existing cultural
norms concerning attachment to place and traditions of subsistence in Appalachia, and, for that matter most rural societies this paradigm is especially apropos.

So what else could be holding Appalachia back? How can it achieve that sustainable future? We have demonstrated a need for environmental education. But there is also a need for development to replace the old environmentally damaging industries that Appalachia has depended on. How can sustainable development be produced? The participants saw it coming from agriculture and from the people. So why hasn’t this happened to date? The need is there, but it could be the lack of education, educated thinking concerning business and product development. There also maybe other explanations.

C.S. Hollings in his “Resilience and Stability of Ecological Systems” states that trying to maintain a stable sustained yield can actually lower resilience and that lose of resilience can create conditions “so that a chance or rare event that previously could be absorbed can trigger a dramatic change and loss of structural integrity of the system” (Hollings, 1973).

Hollings along with others developed a theory of resilience and adaptive systems which today has expanded into the fields of ecology, sustainability and social sciences called Panarchy (Resilience Alliance, 2009).
The symbology of Panarchy consists of two levels:

The first is the inclusion of the dynamics of the adaptive cycle which takes place at all scales allowing different internally arising and externally influenced rhythms. The second is the connections between levels. (Resilience Alliance, 2009)

As social-environmental systems progress along the path of an adaptive system, they cycle from stages of organization, these phases consist of: Reorganization or Alpha phase, Rapid growth or r phase, Conservation or K phase, and Release or Omega phase.

The adaptive cycle exhibits two major phases (or transitions). The first, often referred to as the fore-loop, from r to K, is the slow, incremental phase of growth and accumulation. The second, referred to as the back-loop, from Omega to Alpha, is the
rapid phase of reorganization leading to renewal (Walker & Salt, 2006; Resilience Alliance, 2009).

The normal progress of the adaptive cycle follows this path; however there can occur two deviations from this norm. The first deviation is called a poverty trap and the second is called a rigidity trap. A poverty trap consists of the following conditions:

Collapse of an adaptive cycle because potential and diversity have been eradicated through misuse or because of an external force, leading to an impoverished state with low connectedness, low potential, and low resilience. (Bernard, 2009)

A rigidity trap is characterized by the following:

A wealthy, tightly regulated, and resilient system that has the ability to resist external disturbances and persists, even beyond point of adaptability and creativity. This describes a system with “perverse resilience” locked--maladaptively---in place. High connectedness is achieved by efficient methods of social control that smother novelty or eject innovators. (Bernard, 2009)

So a normally adaptive system can be derailed by these maladaptive changes. Rigidity traps can also be caused by power structures that “reduce diversity, and power and profit are mutually reinforcing” (Carpenter & Broach, 2008). Carpenter and Broach also state that corruption can bring about a rigidity trap. Speaking of the poverty trap, Carpenter and Broach (2008) characterize it as a situation where connectedness and resilience are low and the potential for change is not realized.
Appalachia’s economic system from circa 1880 to the present can be characterized as one that reduces diversity and has situated power and profit in the hands of a few, who through manipulation of the law and capital have controlled the system at large. (Eller, 1982; Eller, 2008) Given the Appalachian’s region long history of economic control by outside interests and socially and politically powerful insiders its adaptive cycle corresponds to a rigidity-trapped cycle.

There are several prescriptive methods to evolve out of a rigidity trap. One way out of this rigidity trap is for the local governance to work to develop diversity in the economy and to bring in capital to invest in local development (not “Big Box stores”). Adger et al. (2005) in studying natural disasters came up with a concept that governance can work to produce improve reliance in a system. They maintain “That multi–level social networks are crucial for developing social capital and for developing legal, political, and financial frameworks that enhance sources of social and ecological resilience” (Adger, et al., 2005, p. 1039). Another way out of an economic rigidity trap has been pioneered by Mohammad Yunus; he realized that the provision of what he termed micro-loans could provide capital for economic development on a very personal level (Yunus, 2003).

Yunus’ work in Bangladesh residents illustrated a principal unrealized in prior economic development systems, how to provide funding for micro-scale loans that could lift individuals out of poverty by promoting micro-entrepreneurship. In the United States, he worked with then Governor Bill Clinton to provide capital to economically depressed areas in Arkansas in the early nineties. However, even with Clinton’s influence, the idea
did not catch on in the United States. One can only speculate on the reasons why, but the idea has been largely met with incredulity in the United States (Yunus, 2003).

The provision of working capital on a large scale and at a level needed by the region’s inhabitants requires something very similar in order to break out of the rigidity trap that engulfs the Appalachian region’s economic engine. I would propose that such an institution funded through governmental and or private sources that provided small capital investments at low interest rates to the citizens would provide the vehicle for locally originated development, which although not automatically sustainable, would tend to use local materials and create value-added products. The addition of value to local products from resources locally availability by definition builds wealth in the region.

Implications

The policy implications for this study are as follows: policymakers should be promoting bottom-up development rather than top down. Policymakers should also be encouraging individual’s efforts and small business development. Sustainable development must be demanded by policymakers. Who need to relinquish control to local entities and promote small locally relevant projects. Finally, safeguards should be developed against funding projects harming the local economy or environment.

Educational practice needs to make sure that school curriculum is place based and uses an environmental education framework. Development of projects should be based in the production of local sustainable products. Social, environmental, and ecological justice are foundational to development. The following precepts are implications for the community. Individual welfare is tied to community welfare. Community welfare is
based in sustainability and environmental justice. Education is also foundational for community welfare.

Environmental education is an important component of Appalachian Studies and general education. In fact social justice cannot occur without environmental and ecological justice. Understanding ecological systems lends understanding to human systems.

Conclusions

The development of a sustainable economy in Appalachia could produce a more affluent and environmentally just life for the region’s residents. The development of such an economy seems to be a new paradigm on the minds of my participants and many other researchers. The participants believe that a sustainable economy in Appalachia must include an agricultural component and that food production and food security is tied to regional ideas of place and identity.

Environmental education is seen by my participants and by many researchers in the field as a foundation of this development. Issues such as environmental justice are important not only to the physical well being but also to the development of self-worth of the individual. There is also a component of social responsibility or character that is tied to the practice of sustainability that was expressed not only by the participants but also the researchers.

Finally, the development of a sustainable economy must come from the grassroots, and therefore a new monetary mechanism that could empower individuals would be advantageous. I believe a micro-capital system designed for the region and tied
to education could do just that. We need the development of a mechanism to tie together
the constructs of economic empowerment, education, and environmental and ecological
justice in a coherent and practical way. As the participants indicated Environmental
Education can be the mechanism that serves that purpose as they see it containing all
those constructs.
References


*Educational Studies, 36*(1) 27 – 45.


Appendix A

Section A - Back Ground

1. Identification information Gender
2. What is your highest educational level?
3. How many years have you worked in Appalachian studies programming?
4. In what capacity/capacities
5. How many years with this institution?
6. How long have you worked on Appalachian issues?
7. What other programs relating to Appalachia have you worked with?
8. Are you a native of the Appalachian region?

Section B - Mission

1. What is the philosophy of your Appalachian studies programs?
2. What is its mission?
   2. How does the mission of your program express itself in the region?
   3. How do mission and programming come together in your opinion?
   4. What do you believe an Appalachian studies program mission should be?

Section C - Place

1. What is your understanding of the concept of place?
2. In your view what is the relevance of place to Appalachian culture?
3. How does the sense of place express itself in Appalachian culture?

Section D – Environmental Education

1. What is your understanding of the concept of environmental education?
2. Do you see any connections between environmental education and Appalachian studies?

3. Is there particular programming at your institution that incorporates environmental education?

3. Are there any connections between environmental education and Appalachian culture?

**Section E – Environmental Justice and Development**

1. What is your understanding of the following concepts concerning the Appalachian region?
   a. environmental justice
   b. sustainability
   c. development

2. How does your program address these issues?
   a. environmental justice
   b. sustainability
   c. development

3. Do you feel you have a personal role or responsibility relative to these issues in your professional life?

3. Can development be sustainable and if so what are some examples that will work as sustainable projects in Appalachia?

**Section F – General**

1. Do you have any suggestions concerning the issues in the Appalachian region?