

YOUTH RITES OF PASSAGE THROUGH ENVIRONMENTAL EDUCATION
IN HUMBOLDT COUNTY

by

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ABSTRACT

The Outward Bound mission to achieve a “deeper intensity of commitment in the rite of passage from youth to adult life” is combined with the academic mission of schooling to create Expeditionary Learning Outward Bound (ELOB). This Master’s project focuses on the design of an ELOB program for 6th-8th grade students in Humboldt County, California, and draws on the unique resources of the City of Arcata. ELOB guidelines have been used to develop the plan for a program entitled Sustainable Community Program and an accompanying curriculum including guiding questions, learning goals (aligned with the 6th-8th grade Science Content Standards for California Public Schools), projects, assessment, and resources for each of six key projects. The Sustainable Community Program’s six major projects are: 1) a wilderness trip; 2) a visit to a demonstration home on sustainable living; 3) a study of a bicycle delivery service that delivers recyclables; 4) a hands-on chemistry lesson at the recycling center; 5) a hands-on chemistry lesson at an organic farm, and 6) a culminating service project planned and carried out by the students. Each project addresses the overarching learning goals through specific activities. This Master’s project contains two documents: 1) the Sustainable Community Curriculum Plan, and 2) a detailed guide to the first two projects. The purpose of this Master’s project is to create an education program that can serve the people of Humboldt County by empowering youth with the knowledge, understanding, and skills needed to sustain their community.

FOR THE CHILDREN

The rising hills, the slopes,
of statistics
lie before us.
the steep climb
of everything going up,
up, as we all go down.

In the next century or the one beyond that,
they say,
are valleys, pastures,
we can meet there in peace if we make it.

To climb these coming crests
one word to you,
to your and your children:

stay together
learn the flowers
go light

Gary Snyder
Turtle Island, 1974

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INTRODUCTION

This education program, entitled Sustainable Community Program (SCP), is being created to provide Humboldt County youth with meaningful rite of passage experiences that go beyond what they typically receive in school. The structure of SCP, based on the Expeditionary Learning Outward Bound (ELOB) model, leads students on “in-depth investigations into a topic that engage [them] in the world through authentic projects, fieldwork, and service. The work students do...centers on critical thinking, essential skills and habits and character development” (Campbell, 1998, p. 3).

The SCP program focuses on sustainable development from a local community perspective. Sustainability, in the broadest sense of the word, is “the capability of being maintained at a certain rate or level” (OED, 1998). Students will learn about society's dependence on various resources, such as energy and water, as well as thinking critically about the sustainability of our use of those resources. Ultimately, students will gain the knowledge and skills to analyze key social and environmental processes through the lens of sustainability and apply what they learn to life in their communities.

SCP maintains the combined theme of sustainability and community through an ELOB curriculum called a “learning expedition.” The learning expedition is comprised of a series of interconnected projects and activities, such as service projects, field trips and educational workshops, which connect students with professionals through meaningful work. The learning expedition begins with a wilderness trip, followed by several visits to sites that specialize in sustainability. The expedition culminates in a

service project to which the students apply what they have learned, making their own contribution toward the sustainability of their communities.

SCP will benefit Humboldt County in a variety of ways. Local surveys show that area youth desire more information and experience that prepares them for life after high school (America's Promise, 1999). Humboldt County is in need of more well-defined, healthy rites of passage—significant events that facilitate an identity shift—from youth to adulthood. The literature indicates that unhealthy behaviors existing among Humboldt County youth—teenaged pregnancy, violence, and drug abuse—are ways that teens provide their own rites of passage (Raphael, 1988; Lewis, 2002). The SCP program provides rite of passage experiences and fulfills a need for increased awareness about sustaining healthy human and environmental communities.

SUSTAINABLE COMMUNITY CURRICULUM PLAN

Theoretical Background

Expeditionary Learning

Many of the original principles of Expeditionary Learning Outward Bound (Expeditionary Learning or ELOB) come from an educator and scholar named Kurt Hahn (Richards, 1990; Cousins, 1995; Campbell, 1998; Kilmister, 1999). Hahn attended Oxford in 1904 after graduating from secondary school in Germany. In between sessions at Oxford one year, Hahn went hiking in the Alps with some friends who told him about Abbotsholme School—an alternative school that they attended. The school’s strong social values inspired Hahn to strengthen society by creating meaningful educational programs.

In an essay on Hahn’s influence on education, Richards, (1990) tells us that “educating for active citizenship was fundamental to Hahn’s philosophy.” This philosophy was fueled by Hahn’s concern for deteriorating values in modern life. Hahn identified these deteriorating values in his “six declines”:

- Decline of fitness due to modern methods of locomotion;
- Decline of initiative and enterprise due to the widespread disease of spectatoritis;
- Decline of memory and imagination due to the confused restlessness of modern life;
- Decline of skill and care due to the weakened tradition of craftsmanship;

- Decline of self-discipline due to the ever-present availability of stimulants and tranquilizers;
- Decline of compassion due to the unseemly haste with which modern life is conducted

The six declines have guided the educational programs arising from most of Hahn's work, of which the most widely known is Outward Bound (OB) (Richards, 1990; Mednick, 1996; Kilmister, 1999; ELOB, 2002).

Outward Bound gets its name from the nautical term describing a ship that is headed out to sea. Richards, (1990) tells the story of how Hahn was commissioned by the British during WWII to develop a training program for young naval officers. When German submarines sank their ships, the British navy noticed that survival rates while adrift in the ocean was related to the age of the officers. They found that the older officers worked together as a team and survived, while younger officers fended for themselves and drowned (Cousins, 1995). Hahn established the first Outward Bound school in England to teach young naval officers how to work together to survive (Richards, 1990).

In 1962, Joshua Minor started the Colorado Outward Bound School, the first Outward Bound School in the United States. Today Outward Bound continues to follow the principles of Kurt Hahn teaching outdoor leadership with 57 offices in over 32 countries (NCOB, 2001). Outward Bound has inspired many other programs including the National Outdoor Leadership School (NOLS), The Wilderness Education Association, Project Adventure (PA), and ELOB (Raiola, 1998).

Project Adventure is the result of an early attempt by Jerry Pieh in 1971 to apply OB concepts to the classroom. According to Raiola, (1998), PA offers workshops and training in five different “strands”: physical education/recreation, academic, therapeutic, professional development, and community development. PA also designs and installs challenge ropes courses—an obstacle course designed to present physical challenges that invoke the use of teamwork and personal initiative. Challenge course participants are guided through a series of “low elements,” obstacles that are close to the ground, and “high elements,” which require participants to be secured to a rope and body harness while undergoing personal challenges high above the ground. These challenges provide a safe environment for people to conquer their personal fears and limitations and gain teamwork and group skills. PA continues to be the leader in design and development of challenge ropes courses (Raiola, 1998).

In 1992, a group of scholars teamed up with the national director of OB to combine OB techniques and values with the academic rigor of schooling. They received a grant from the New American Schools Development Corporation—a private non-profit organization formed to support the design and development of high performance schools (Success for All, 2002). Within seven years, more than 60 American schools had adopted the ELOB vision. Appendix B shows the ten design principles developed by the founders of ELOB to guide the creation of ELOB curricula (Cousins, 1995; Mednick, 1996; Campbell, 1998; Kilmister, 1999).

ELOB students and instructors view learning as an “expedition into the unknown” (Kilmister, 1999). It is not uncommon to find an ELOB student writing an English essay

while sitting on a rock in the middle of a river, or riding the train around New York to research architecture (Mednick, 1996; Campbell, 1998). ELOB is a pre-kindergarten through twelfth grade teaching/learning model that “brings the students out into the world and the world into the classroom” (Mednick, 1996). The ELOB curriculum is called a “learning expedition,” which Campbell, (1998) defines:

Learning expeditions are in-depth investigations into a topic that engage students in the world through authentic projects, fieldwork, and service. The work students do within learning expeditions centers on critical thinking, essential skills and habits, and character development. Ongoing assessment is woven throughout the expeditions, pushing students to higher levels of performance in pursuit of academic excellence. (p. 3)

Rites of Passage

The learning expedition is not only academic in nature, but according to Cousins, (1995), ELOB strives for a “deeper intensity of commitment in the rite of passage from youth to adult life.” Arnold van Gennep coined the phrase “rite of passage” in his 1908 book *The Rites of Passage* (Vida, 1999). In the following passage from her 1999 book *Girls on the Verge*, Vendela Vida quotes van Gennep:

...transitions from one age to another, from one occupation to another, are implicit in the very fact of existence. These rites of passage are marked by ceremonies ‘whose essential purpose is to enable the individual to pass from one defined position to another that is equally well defined.’ These ceremonies are what we call rituals. (p. xii)

Ray Raphael, Humboldt County resident and author of the 1988 book *Men From the Boys*, discusses male rites of passage in contemporary Western society. Raphael paraphrases van Gennep, saying “a central theme to male initiation rites, according to van Gennep, is a change in identity: the death of the boy, the resurrection of the man...The theme of death and rebirth is played out in three phases: separation, transition, and

incorporation” (Raphael, 1988, p. 4). During separation, the boy must be severed from all ties with the past. This separation can include a haircut, new clothes, or removal from home. The transition phase often involves an initiation ritual, which “redefines the physical, social, and spiritual existence of its participants” (Raphael, 1988, p. 4). Finally, the incorporation phase is the formal initiation of the young men into adult society, often marked by a great fanfare and celebration.

Rites of passage are not necessarily directed by others in the community. Gilbert Herdt and Andrew Boxer’s 1996 book entitled *Children of Horizons: How gay and lesbian teens are leading a new way out of the closet*, speaks of the social aspect of the rite of passage as it relates to homosexual youth: “...certain rites of passage express achievements of the person, such as marriage or promotion to a new social role, that are less ‘driven’ by biological and more guided by social impetus.” However, Herdt and Boxer argue that for gay youths, “coming out” is an initiation into the gay community that is determined by the initiate. In Herdt and Boxer’s words, rite-of-passage rituals can be “created out of the intense desire to live a social life in accordance with inner desires that can only be achieved by entering the new culture” (p. 167). Raphael supports this argument:

A youth would appear to be more manly, not less, if he can not only *endure* his rite of passage but also *create* it; such an approach is certainly more in keeping with the frontier ethic of rugged independence still closely linked with the masculine mystique in modern America. (p. 50)

So, a rite of passage is not necessarily directed by the adults in the community but can also be chosen by the individual.

Synthesizing these definitions, we can say that a rite of passage is a ritual that facilitates the passage of an individual from one identity to another. This passage, and its resulting change in identity, can be either voluntary or imposed, and it involves three phases: separation, transition, and incorporation.

Although rites of passage occur throughout life, the Sustainable Community Program (SCP) is particularly concerned with the passage from youth to adulthood, and therefore it is worthwhile to ask what “youth” means. Joe Austin and Michael Nevin Willard (Eds.) define youth in their 1998 compilation of essays entitled *Generations of Youth: Youth Cultures and History in Twentieth-Century America*, saying that “youth” is a social identity, like race, that is formed through the sociohistorical process by which social categories are “created, inhabited, transformed, and destroyed” (P. 4). In other words, social categories like “youth,” “black,” “white,” and “Latino” are created and shaped over time by a combination of social and historical forces. But, “youth” is unique in that it transcends skin color, ethnic background, and gender. Youth is a “multiple identity whose relations to other social formations are constantly in flux and only definable temporarily and locally... Young people cannot be approached as a homogenous group nor as a force for progressive social change” (Austin & Willard, 1998, p. 6).

Austin and Willard also mention that young people are constantly searching for identity:

These negotiations of identity and autonomy are carried out *within* the peer culture and its internal segmentations as well; young people bargain for relative statuses and identities within the wider peer culture. The peer group has become one of the major institutions of socialization during the

twentieth century, and recent studies indicate that the influence of the peer group for some populations is perhaps greater than any other institution. (p. 5)

Other research supports this. The 1999 America's Promise Teen Health and Wellness Survey of Humboldt County teens reported that 38% of teens would be most comfortable learning from friends (Humboldt County Youth Composite Picture section).

The word "youth" then represents the fluid identity occupied by young people prior to adulthood. Physically, youths may be adults, but their identities are not that of an adult until they have undergone a rite of passage. Youth's identities are in constant flux as they explore relationships with other "social formations," such as adults, police, and schools. The rite-of-passage ritual has a stabilizing effect on an individual granting him or her acceptance into adult society.

What happens, though when youth deviate from the well-defined rite of passage, or they are not provided with healthy ones? Time magazine featured an article by Karl Taro Greenfield entitled *Life on the Edge*, which discusses (albeit sensationalized) the growing popularity of "risky" pastimes in American culture (September 6, 1999). For example, in the increasingly popular sport BASE jumping—BASE is an acronym for building, antenna, span (bridge), and earth (cliffs)—people jump from places high enough to use a parachute, but low enough to permit no margin of error. Although the adrenaline rush is surely a draw, one has to wonder if risk takers are—either consciously or subconsciously—searching for a rite of passage.

Raphael (1988), gives several examples of young men who go to extremes like BASE jumping. Raphael, writes about “the problem of public validation” among these extreme risk takers. In Raphael’s own words,

Surely there is personal power to be gained by these experiences, but by removing the initiations from any social context, a youth makes it harder for that power to be sustained. It is therefore quite understandable that many young men try to refabricate the context which is lacking: they compete with others, they brag, they publicize their private events in any way they can. (p. 66)

So, according to Raphael, risky behavior may be the result of people’s longing for public validation for their transition into adulthood.

Others agree that harmful results occur when youth do not receive a well-defined rite of passage. Zoë Lewis, 2002 writes:

In modern Western Society, most teens do not have wise elders whom they trust and respect to guide them in how to live a responsible and fulfilling life. Many adolescents look only to their peers for guidance. Mythologist Joseph Campbell noted, "Boys everywhere have a need for rituals marking their passage to manhood. If society does not provide them, they will inevitably invent their own." This, of course, also holds true for girls and the newspapers are filled with these default rites of passage: vandalism, gang activity, pregnancy, fighting, and other self-destructive, life-threatening activities, such as hanging from towel dispensers, drinking and driving, suicide attempts and the like. It’s almost as if teenagers are in touch with an archetypal need to have a symbolic death of themselves as children in order to become adults. Without proper instruction from elders, who have had their own rites of passage, they have come up with these harmful alternatives.

When youth are not provided rite-of-passage experiences that are positively regarded by society, they will inevitably create their own. As Raphael has stated, rites of passage have an element of drama to them because of the initiate’s need for public

validation. If the individual's accomplishments do not receive public validation, he or she can become fixated on performing risky tasks.

Greenfield, Lewis, and Raphael all give examples of the extreme forms rites of passage can take when society leaves it up to the individual to choose his or her initiation. Traditional societies often practice gruesome and dangerous rites of passage (Raphael, 1988). In modern society, it is surely preferable for youth to receive rite of passage experiences that initiate and celebrate their entrance into adulthood with minimal risk.

The provision of healthy rites of passage is a concern for Humboldt County youth. According to the Humboldt County's Juvenile Justice Department, teen incarceration rates are not tracked, but several employees agree that most youth offenses fall among vandalism, drug use, and violence. Humboldt County's 1998 pregnancy rate for 10-19 year olds was 12.4%, surpassing the California average of 11.2% (CED, 2001). Forty-four percent of teens surveyed (mean age 15) requested information on the long-term effects of drugs and alcohol (America's Promise, 1999). Are teen vandalism, violence, drug abuse and pregnancy the results of our culture's inability to provide appropriate rites-of-passage? These figures suggest that Lewis' statement is correct, but there is still a lack of explicit evidence to support her claim. This would be a worthwhile focus for future research.

Larger societal trends surely have an effect on the way youths transition into adulthood. Early generations in America experienced different rites of passage than youth do today, many of them entering the workforce at an early age. The shift from the role of a dependant to that of a provider undoubtedly resulted in an identity change for

the individual. Youth who entered the workforce instead of going to school were treated differently by the community.

High school graduation is possibly the most broadly accepted ritual in contemporary American culture that approaches the classic definition of a rite of passage. Therefore analyzing high school graduation in light of the literature on rite of passage will be useful. First, do public schools take youth through van Gennep's three rite-of-passage stages: separation, transition, and incorporation? In high school, youth as a group are separated from mainstream society, but their separation is determined mainly by age. Second, the transition youth are provided through high school education can be rigorous and even customized somewhat to individual needs, but public education is mostly formulaic, making it too difficult for youth to individuate. Finally, do public schools do a good job of incorporating youth into adult society? In addition to the fact that youth are treated as a homogenous group instead of as a group of individuals, and that they are all given virtually identical transitional experiences, high schools also fall short in their ability to incorporate youth into adult society. High schools (and most other public schools) generally do not require that students have any experience outside of school classrooms. Students spend most of their time during high school inside classrooms preparing for the real world, and when it is time for them to enter the real world they have little practical experience (Austin and Willard, 1998; deMarrais and LeCompte, 1999; Childress, 2001).

Humboldt County demographics, support the critique of the public schools' treatment of rites of passage. In 1999, high school dropout rates in Humboldt were at the

second highest in ten years (CED, 2001). America's Promise Youth Alliance produced the Teen Health and Wellness Survey (1999), which reported that the primary concern among Humboldt teens (mean age 15 years) was a need for more information about job opportunities and training (64%). Sixty-three percent of Humboldt teens said they would like to see their community providing more information on living on their own and going to college. In this report they said, "there may be information available, but somehow teens are not getting it." Perhaps they may not be getting *enough* information. These study results indicate that Humboldt County youth are not receiving an adequate transition into adulthood.

Expeditionary Learning's focus on the rite of passage from youth to adult life is part of what makes it so successful (Cousins, 1995). Flo Levin (1993) describes a 1993 study of the North Carolina Outward Bound School Summer Scholars Program conducted by New York City. In this study, 125 ninth-graders from five inner-city schools were placed in five independent schools for six weeks. Two of these schools were Outward Bound Schools and three were elite traditional boarding schools. The participants, who had all been far behind academic standards, gained an average of 6.5 months in reading and 7.4 months in math during the six-week study. The students of both Outward Bound Schools met or exceeded the average level of performance of all five schools in the study (Levin, 1993).

There are no ELOB schools in Humboldt County. The closest ELOB schools to Humboldt are hundreds of miles away in Oakland, California and Bend, Oregon (ELOB, 2002). Although ELOB does not exist formally in Humboldt, there are indications that it

would be successful. Aspects of ELOB appear in several alternative education programs throughout Humboldt County, including two Project Adventure challenge courses.

An ELOB curriculum in Humboldt County will address a need for teen rite of passage experiences, and it will also meet the community's interest in alternative education. In addition, this program could draw youth to Humboldt County from other areas. A survey found that more than 30 environmental education programs exist in Humboldt County schools and extracurricular programs, many of which would support ELOB (Evans and Sidell, 2002). This is a significant number of programs considering the County's population is only 127, 600 (CED, 2001). Teachers, AmeriCorps members, various offices of education, charter schools, private schools, city parks and recreation departments, and other businesses and non-profit organizations are sources of programs that expand or go beyond conventional public education to add a whole new set of options (M. Malkus, personal communication, January 23, 2002). These programs include experiential learning, environmental education, outdoor education, adventure education, and other innovative educational models (Evans and Sidell, 2002).

Research indicates that Humboldt teens require more healthy rite-of-passage experiences. A large percentage of teens have stated a need for more information on life after high school, and unfortunately, teen pregnancy rates and school drop out rates are up. Humboldt hosts a significant number of education programs that provide alternatives to the traditional school program, indicating that the community is interested in alternative forms of education. ELOB's emphasis on youth rites of passage and social

and environmental responsibility directly addresses the needs and interests of Humboldt County, making it a worthwhile endeavor for this community.

Program Content

And daddy won't you take me back to Muhlenberg County
Down by the Green River where Paradise lay
Well, I'm sorry my son, but you're too late in asking
Mister Peabody's coal train has hauled it away

The chorus of the popular American folk tune, *Paradise* by John Prine, summarizes Paradise, Kentucky residents' experience with the Peabody Coal Company. The list of lawsuits filed against the Peabody Coal Company for environmental, labor, and other alleged offenses is extensive. Prine's song puts into music concerns that Peabody Coal plans to extract all of the resources from the area and leave the residents to struggle.

Kentucky farmer and writer Wendell Berry provides a foundation for the fears about Peabody Coal in his book *Another Turn of the Crank*, (1995). In a chapter entitled "Conserving Communities," Berry cites a *New York Times* Service report on Champion International Corporation's "rape-and-run" logging practices in Montana. The report mentioned the excessive resource extraction practices of the company, which disregarded the well being of the community it was located in.

A similar situation exists in Humboldt County. In 1985, Maxxam Corporation took over a family-owned lumber company in Humboldt County called Pacific Lumber. Since then, Maxxam has been charged with numerous environmental offenses. Many Humboldt County residents accuse Maxxam of "rape-and-run" logging practices similar to those of Champion International Corporation. Maxxam's unsustainable practices are

no anomaly. In January, 2001, Louisiana Pacific Industries was charged with 422 counts of toxic dumping at its Arcata mill (The Eye, 2001, p. 1).

Why do our business practices seem to represent a lack of understanding of basic ethics and human health. Berry, (1995) is critical of the role that large corporations, governments, and education often play in rural communities:

We are now pretty obviously facing the possibility of a world that the supranational corporations, and the governments and educational systems that serve them, will control entirely for their own enrichment [and] for the impoverishment of all the rest of us. (p. 12)

The inclusion of educational systems in this criticism indicates that education can result in behavior that is detrimental to society. When one considers present day corporate activities such as the Enron scandal, or the Gap Corporation's use of exploitive sweatshop labor in third-world countries, the question arises, "What was missing from the education of the men and women who let this happen?" Or, perhaps we should ask, "Is American education teaching people that it is acceptable to violate human rights for increased profit margins?"

David Orr (1994), Oberlin College's environmental studies department chair, argues convincingly that education has failed to instruct society on appropriate sustainability practices. After providing a litany of statistics on human-inflicted destruction of the earth's environment, Orr makes this argument:

This is not the work of ignorant people. Rather, it is largely the results of work by people with BAs, BSs, LLBs, MBAs, and PhDs. Elie Wiesel once made the same point, noting that the designers and perpetrators of Auschwitz, Dachau, and Buchenwald—the Holocaust—were the heirs of Kant and Goethe, widely thought to be the best educated people on earth. But their education did not serve as an adequate barrier to barbarity. What was wrong with their education? In Wiesel's (1990) words,

It emphasized theories instead of values, concepts rather than human beings, abstraction rather than consciousness, answers instead of questions, ideology and efficiency rather than conscience.

I believe that the same could be said of our education. Toward the natural world it to emphasizes theories, not values; abstraction rather than consciousness; neat answers instead of questions; and technical efficiency over conscience. (p. 7)

A lack of ethics in human behavior is not necessarily caused by a lack of education, but by a deficiency within the education system and other institutions.

In 1983, a landmark report from the United Nations' World Commission on Environment and Development (WCED) entitled *Our Common Future* coined the term sustainable development:

Sustainable development involves more than growth. It requires a change in the content of growth, to make it less material- and energy-intensive and more equitable in its impact. These changes are required in all countries as part of a package of measures to maintain the stock of ecological capital, to improve the distribution of income, and to reduce the degree of vulnerability of economic crises. (p. 52)

How should education change to improve these deficiencies? SCP gives youth first-hand experiences working with and learning from environmental professionals so that they can gain practical skills needed to solve problems preventing environmental sustainability.

From the term "sustainable development" comes "sustainability," which refers to a community's self-sufficiency through appropriate management of economic, social and environmental resources (WCED, 1983; Orr, 1994; Berry, 1995; Worldwatch, 2001).

The Oxford English Dictionary (online version) defines sustainability as "the capability of being maintained at a certain rate or level" (OED, 1998). In its discussion of

sustainability, WCED includes the livelihood of the local environment and the local community (p. 53). The local community is where the global sustainability movement should start (Berry, 1995). The opening paragraph of *Our Common Future* stresses the involvement of both sustainability and community in the development of a healthy planet:

The earth is one but the world is not. We all depend on one biosphere for sustaining our lives. Yet each community, each country, strives for survival and prosperity with little regard for its impact on others. Some consume the earth's resources at a rate that would leave little for future generations. Others, many more in number, consume far too little and live with the prospect of hunger, squalor, disease, and early death. (p. 27)

Poet Gary Snyder provides an explanation for the inability for Western culture to achieve sustainability in his 1975 Pulitzer Prize winning book *Turtle Island*. Snyder diagnoses Western culture with self-destructive behavior resulting from its denial of being a part of nature:

A culture that alienates itself from the very ground of its own being—from the wilderness outside (that is to say, wild nature, the wild, self-contained, self-informing ecosystems) and from that other wilderness, the wilderness within—is doomed to a very destructive behavior, ultimately perhaps self-destructive behavior. (p. 106)

The United Indian Health Services (UIHS), an organization that provides health care for Native Americans in Humboldt County, has a philosophy that is consistent with Snyder's. The UIHS philosophy states that humans are a part of nature, so closely connected that the health of one is directly dependent on the health of the other. It is the aim of SCP to address the alienation of our culture from its inner wilderness. Through wilderness rite-of-passage experiences and a curriculum focused on global sustainability, SCP will teach the value of human connection to the natural world.

Educating about sustainability is important, but is there also something wrong with the way people are taught in our culture? Perhaps Harvard Psychologist Ellen Langer can provide some insight into other problems with education systems. In her 1997 book, *The Power Of Mindful Learning*, Langer identifies seven myths that undermine the process of learning:

1. The basics must be learned so well that they become second nature.
2. Paying attention means staying focused on one thing at a time.
3. Delaying gratification is important.
4. Rote memorization is necessary in education.
5. Forgetting is a problem.
6. Intelligence is knowing “what’s out there.”
7. There are right and wrong answers. (p. 2)

Langer examines these myths with experiments carried out at Harvard and elsewhere, explaining how they “stifle our creativity, silence our questions, and diminish our self-esteem” (p. 2). She attributes these problems with education to a lack of “mindful learning,” which has three characteristics: the continuous creation of new categories; openness to new information; and an implicit awareness of more than one perspective. Mindlessness, on the other hand, is characterized by an entrapment in old categories; automatic behavior that precludes attending to new signals; and by action that operates from a single perspective. Langer says, “Being mindless, colloquially speaking, is like being on automatic pilot” (p. 4). A mindful approach contributes to our psychological and physical well being.

Educational scholar Jean Lave (1991), provides a socio-cultural explanation of learning that explains how people interact with their environment. Lave stresses an “emphasis on comprehensive understanding involving the whole person rather than ‘receiving’ a body of factual knowledge about the world; on activity in and with the world; and on the view that agent, activity, and the world mutually constitute each other” (p. 33). If learning is treated as the dynamic, interactive process that Lave suggests, then the learner is an agent in the learning process instead of the passive receiver of information that Orr and Wiesel warn us against.

Orr and Lave both stress the direct connection between the environment and learning. Orr’s concern is that the deterioration of our environment is a reflection on the ethical quality of education. He warns us that education that does not teach basic morals can be devastating not only to the natural environment, but to our society. The myths that Langer mentions lead to what she calls “mindlessness”—the inability of an individual to think creatively and critically—which causes the social deterioration that Orr warns us about.

The concern that values may be missing in some educational systems is a valid one. In 1977, the United Nations Education, Science and Cultural Organization (UNESCO) helped organize the Intergovernmental Conference on Environmental Education in Tblisi, in the former Soviet Union. This conference recognized that education systems should involve more practical application and be closely connected with natural and social environments (Education Task Force, 1995).

“The Natural World,” one of the ten ELOB design principles (Appendix B), states, “A direct and respectful relationship with the natural world refreshes the human spirit and reveals important lessons of recurring cycles and causes and effect. Students learn to become stewards of the earth and of the generations to come” (ELOB Home Page, 2002).

The topic of sustainable community goes hand in hand with the principles of ELOB. Emily Cousins, one of the founders of ELOB, discusses ways in which ELOB helps to build community: “over time, [ELOB] design builds community understanding, interest and commitment to public education by offering parents and community members meaningful and rewarding involvement in supporting students’ intellectual and character development and growth” (Cousins, 1995, p. xi). Because of the strong community focus of ELOB, it is well complemented by a community theme.

A 1998 HAF reported the results of a survey of Humboldt County residents. Results from this report indicate that sustainable community is a particularly important topic to Humboldt County residents because of their isolated location and their reliance on natural resources for livelihood and quality of life (Economy section). The County’s total harvested acreage was 490,975 in 1999. In the same year, timber production was 66% of the total agricultural production, grossing \$181,481,000. This was a decrease from the 1998 production of 71% and gross of \$203,494,000 (CED, 2001, Agriculture section). The HAF report stated that all major rivers in the County are suffering from increased sedimentation and temperature (Environment section). Both are key factors in the survival of several species of salmon and steelhead trout, and the number of species

listed as threatened or endangered by either the State or Federal government has increased from five in 1985 to eleven in 1997 (HAF, 1998, Environment section).

Humboldt County contains and is surrounded by many millions of acres of publicly owned parks and wilderness areas containing mountains, rivers, wetlands, marine coast, and redwood forests. According to the 1998 HAF report, “Tourism accounts for approximately 4,100 jobs, with a payroll of nearly 52 million dollars per year” (Environment section). The report also states, “When asked their reasons for coming to live in the County, ‘for the environment’ was rated second only to ‘family reasons’” and “When asked what most satisfied them from a list of twelve aspects of life, the survey respondents ranked ‘the area in which they live’ as number one.” (Environment section). Humboldt County is an excellent place for people to discover what Snyder calls their “wild nature.”

The combination of ELOB with the subject of sustainable community makes for a powerful tool to contend with the environmental and social setbacks experienced in Humboldt County. With SCP, Humboldt residents will be able to strike a balance among their many resource needs by enabling younger generations with necessary tools. With these tools, Humboldt County residents can defend themselves against “rape-and-run” logging, toxic dumping, and other obstructions to their sustainable development.

Mission

The aim of the Humboldt County SCP is to help youth shape their identities through healthy rite-of-passage experiences, such as service projects, outdoor adventures,

and interactions with professionals, which show the interconnection between each individual, her or his community, and the environment. The program should inspire and empower citizens to play an active role in transforming their communities into models of environmental, social, and economic sustainability which inform the rest of the world.

Objectives

The program will satisfy the following objectives to achieve its mission:

- Provide youth with basic information needed to make educated decisions affecting the strength and sustainability of their community.
- Provide healthy rite-of-passage experiences for youth.
- Lead youth on a wilderness trip that helps them experience the importance of key elements of human survival, which are applicable to both rustic and modern life.
- Present youth with examples of how people strengthen their community and make it sustainable.
- Provide healthy rite-of-passage experiences for Humboldt County youth.
- Provide youth with experiences that help them identify their role in their community.

Guiding Questions

Each of the six projects within SCP will address one or more of the following questions, which serve to guide the learning process toward explicit goals. The guiding questions should be continuously revisited throughout the course of the program. They

can also be used to informally assess the student's progress, and the program's ability to move students toward learning goals.

- What is community, and how do you fit into a community?
- What is sustainability and how does it relate to community?
- What resources do you have to think about when trying to sustain yourself in the wilderness?
- How is surviving in the wilderness like and unlike a modern community that is trying to sustain itself?
- What techniques are used to strengthen communities and make them sustainable?
- How are commonly used inorganic materials—such as glass, metal, paper, and plastic—recycled?
- How does organic matter (from plants and animals) get recycled?
- What can you do to improve the sustainability of your community?

Learning Goals

The following learning goals were aligned with the program objectives and the 6th-8th grade Science Content Standards for California Public Schools (CDE, 2002).

Appendix C shows the alignment of learning goals to state standards. By posing the guiding questions throughout the program activities, we expect students to develop the following understandings.

- Content—Students will understand:

- What community is and how they fit into a community.
- How each individual plays a unique and important role in a community of people that work together for the common good.
- What sustainability is and how it relates to community.
- That planet Earth is a complex living system where resources (energy, space, materials) are stored and cycled between a large number of diverse organisms and places.
- The value of the natural world.
- The number and types of organisms an ecosystem can support depends on the resources available.
- The natural origin of materials used to make common objects.
- That humans play a unique role on Earth because we can control the cycles of resources (energy, space, materials) and abiotic factors (water quality, air quality, soil composition, and global temperature).
- Different natural energy and material resources, including air, soil, rocks, minerals, petroleum, fresh water, wildlife, forests, sunlight, wind, geothermal, and biogas, and know how to classify them as renewable or non-renewable.
- Plants and animals have different levels of organization for structure and function including cells, tissues, organ systems, and the whole organism. Likewise, Earth has different levels of organization for structure and function including organisms, ecosystems, biomes, bioregions, and the whole planet.
- Physical principles of light and how different organisms use it.

- Basic chemical reactions
- Chemistry of living systems
- The basic structure of matter
- The periodic table of the elements
- Skills and Habits—Students will practice and be able to do:
 - Teamwork and individual activities that help to reach individual and community goals.
 - Oral, written, and graphical explanations effectively communicating the basic chemical processes of recycling glass, plastic, paper, and common metals.
 - Oral, written, and graphical explanations effectively communicating the basic biological processes of composting.
 - Oral, written, and graphical explanations effectively communicating the structure of organic and inorganic matter.
 - Oral, written, and graphical explanations effectively communicating the cycling of matter in compost and how it relates to the big picture of resource cycling.
- Quality of Character and Community—Students will participate in activities to practice and develop qualities of character and community, including:
 - A healthy rite-of-passage experience that demarks their transition into adulthood.
 - Service projects focusing on the cycling of resources within the community
 - A major service project requiring students to communicate with community members and organizations to organize a recycling or compost program in their school, or help to maintain an established compost or recycling program.

- Presentations on composting and recycling given to the local media, city council, school board, or other group in a way that shares important information with a legitimate audience.

Project Descriptions

SCP educators will take students on a learning expedition of sustainable community. The expedition is a three-week series of projects and activities that take place in the city of Arcata and the wilderness around Humboldt County. Throughout the learning expedition, students will keep a journal, meet professionals, and initiate and present projects. Their experiences will include a trip to a challenge course, a wilderness trip, and several businesses that support sustainable community. The final project of the learning expedition will bring together all the experiences from the previous weeks into a one-week service activity. The service project will be accompanied by an oral and written public presentation which recapitulates what the students have learned.

Certain distinctions between projects made by the following project descriptions will not be as clearly defined for the students. PedX, the Recycling Center, and the Organic Farm are described here as three separate projects, however the projects will be continuous and overlapping. For example, the students will visit PedX, make a delivery to the recycling center and spend a day there, return to PedX, and make a delivery to the organic farm and spend a day there. For the purpose of illustration, however the projects are described separately.

Three distinct themes, journal writings, the full value contract, and thematic readings are the vinculum of the SCP projects. Many activities will begin with a story, poem, or literary excerpt that relates to the lesson. These readings will introduce activities and give rise to dialogue about specific topics. The Full Value Contract (FVC) is an activity used to define group goals and expectations preceding extended group experiences. The FVC will be created at the ropes course and written in a group journal. The group journal will be carried along on the expedition, and the FVC will be reviewed at the end of each project so that the goals and expectations the students set for themselves can change and grow with the group. Later, the students will use the FVC revisions and notes from the group journal to create a rubric for the final presentations.

The group journal will serve as a log of the group's learning throughout the expedition, while individual student journals will allow students to record individual thoughts, feelings, and observations about the lessons. For example, after spending eight hours alone in the wilderness a student might want to write down an idea about how to communicate better with her siblings, but after reading a poem aloud, the group discussion might lead to an important conclusion which should be recorded in the group journal. The journal activities serve two purposes: (1) they provide a means of formative and diagnostic assessment, and (2) they are documentation of what the students are learning. Writings from both the group and individual students' journals will inform a final presentation produced by the students.

The writing process modeled after the one described by Levin, (1993), takes place in six stages: *prewrite, freewrite, write, rewrite, polish, and publish*. The process starts

with prewrite, which is anything that sets the stage for writing (in this case the ropes course and wilderness trip). Freewrite asks the student to write down ideas freely without attention to form, spelling, and grammar; write and rewrite gradually implement writing conventions as students take their work through a series of revisions. The writing process ends with the students polishing and publishing their final product. The final product of the writing process will be the written component of the final presentation. The writing process illustrates the interconnection that is achieved by the journal, full value contract, and reading activities that take place throughout the learning expedition. This process is highly creative and is subject to much variability depending on the individuals involved.

Wilderness Trip: Defining Sustainable Community (Day 1-6)

The wilderness trip is a six-day project designed to introduce students to the topic of sustainable community. The trip begins with a two-day visit to the challenge course, which also acts as the SCP introduction. The first activity is called the Full Value Contract (FVC), an activity in which the students define the goals and expectations they have of themselves as a group. Facilitators and SCP leaders will guide students in defining their own guidelines for group interaction. Guidelines such as “be positive,” “be supportive of others,” and “challenge yourself,” set the tone for the next three weeks. The FVC will be the first entry into the group journal and will be carried with the group throughout the course of the program.

At the challenge course, the students will challenge themselves as individuals and as a group through activities such as “The Whale Watch,” where the group stands on a giant platform and works together to balance the platform as it teeters on top of a log.

Another challenge course activity called the “Catwalk,” requires a participant, secured by rope and harness, to climb up into the trees. Once in the trees, the participant is encouraged by her friends below to walk across a log, which is suspended horizontally 30 feet above the ground. Activities such as the Catwalk and The Whale Watch challenge people to expand their boundaries and confront their fears. The experiences people have at the challenge course are metaphors for challenges people face in daily life such as communicating with people, working with a group to accomplish a goal, and confronting fears that prevent people from achieving personal goals.

The ropes course provides a safe and supportive environment for people to experiment with challenging situations. The SCP instructors will work with the challenge course leaders to adapt metaphors and language to help students develop basic skills that contribute to sustainable community. Skills such as communication, knowing one’s own strengths and limitations, confronting one’s own limitations, and encouraging others to do the same will be focused on heavily. SCP will create a culture of community among the participants by helping students confront feelings, emotions, strengths, weaknesses, and the ways they interact with others. Later, when the students accomplish certain goals, the close-knit social group that has been formed will provide public validation (Raphael, 1988; Vendela, 1999). This culture of community will strengthen the bonds between the youth and emphasize the rite-or passage experiences in the program.

Students are eased into this process by starting off with enjoyable games and slowly progressing through “ice-breakers” and group and individual challenge activities.

A selected reading summarizing sustainable community will segue between the ice-breakers and the group activities. At the end of each day, a freewrite journal activity will ask students to respond to the questions: “What does it mean to be a part of a community?” and “What does sustainability mean?” In addition to the personal journal, the group journal, where the FVC is kept, will be left out on tables, picnic benches, and rocks to chronicle the spontaneous feelings, ideas, and other thoughts that come out of group activities.

The third day is guided by the question “What resources do you have to think about when trying to sustain yourself in the wilderness?” The activities for day three are designed to help students to consider the resources that are crucial for their survival. The day’s activities engage students in every facet of trip planning: calculating food rations, testing the water filters, and gathering tents and other supplies. The ensuing wilderness trip adds legitimacy to these activities, and students’ excitement about the trip is channeled into a fun learning experience.

Following the challenge course and trip preparation, the students will embark on the actual wilderness trip. The purpose of the trip is to help youth understand the importance of community, how sustainability relates to them as individuals, and provide youth with a healthy rite of passage experience.

Social practice involves the learner in legitimate practice of specific societal roles (Lave, 1999). Activities on the wilderness trip and other projects will give students the opportunity to practice various adult roles in society. The first activity in the wilderness will start with a group discussion about community, followed by a joint delegation of

tasks. Each student will experience the importance of community by performing a vital role in the group's survival. Students will take turns with tasks such as filtering water, preparing food, cleaning up, and gathering wood for the fire. Later, a group discussion will connect these tasks to concerns of modern civilization such as water, food, and energy resources.

Another activity gives students social practice as field scientists, and educators. While on the trip, students choose Ecology, Earth Science, or Life Science as their specialty area. Students will be asked critical questions that guide their exploration of these topics in the surrounding wilderness, and they will be required to gather information on specific scientific facts and principles. Following the explorations, the "Each-One-Teach-One" activity will require students to lead their peers (or colleagues) on a "guided hike," teaching about their specialty area.

The solo experience will begin on the afternoon of Day 5. Each student will be taken by an adult to a special location where she or he will stay until dark. Although the solo can be perceived by the student to be somewhat risky, the activity is actually very controlled. The students' locations are pre-planned and closely monitored by the adults. The solo is an opportunity for the students to, among other things, peacefully enjoy their surroundings, reflect on recent and past experiences, confront their fears and limitations, and make important realizations about themselves and their place in the world. The solo will culminate in a campfire ceremony where the entire group acknowledges each individual's fulfillment of this rite of passage and celebrates with a feast. The campfire ceremony is for sharing stories and discussing the similarities and differences between

people's solo experiences. This reflection will be followed by a celebration: reuniting with friends, telling more stories, singing songs, and playing games.

The last day of the wilderness trip is spent packing up, packing out, and returning to civilization. On the return hike, the group will take a break and reflect on the entire trip, noting important lessons they can bring back to civilization with them. Throughout the duration of SCP, the students will be given many opportunities to practice and demonstrate the skills and knowledge they have gained over the first six days.

When the students return to civilization, the remaining projects are designed to help them transfer what they have learned from the Wilderness Trip to the larger community. Armed with rich experiences in the importance of community and sustainability, students will meet local professionals who cooperate to make their community sustainable. The remaining projects are guided by the questions, "How is surviving in the wilderness like and unlike a modern community that is trying to sustain itself?" and "What techniques are used to strengthen communities and make them sustainable?"

Campus Center for Appropriate Technology (CCAT): Living Sustainably (Day 7)

At CCAT, located on the Humboldt State University campus, college students live in a demonstration home of sustainable living. SCP students will see many examples of how people have transformed certain aspects of daily life to contribute to sustainable community. The first half of the day will be spent observing many examples of cutting-edge technology used to make communities sustainable. After lunch, the students will work in groups to create an artifact illustrating a plan for a sustainable community. Using

their artifacts, the students will formally present their sustainable community plan to their peers, CCAT directors, and CCAT staff. This presentation will be used as a formative assessment of students' understandings of certain aspects of sustainable community.

PedX: Community Cycles (Days 8-10)

Following CCAT, the students spend days 8-10 visiting and working with PedX, a business that contributes to the sustainability of Arcata. The owner of PedX is a local man who is able to earn a living by operating a bicycle service that delivers food waste and recyclables to their appropriate locations within the community. Students will spend the beginning of Day 8 learning why PedX uses bicycles and bike trailers to pick up waste from various locations in the community and deliver them to the recycling center and organic farms. After a discussion of how resources are cycled, conserved, and recycled, within the community, the students will put their knowledge into action. The group will spend the afternoon of Day 8 riding bikes with trailers along the PedX route, picking up recyclables, and delivering them to the recycling center.

Recycling Center: Cycling Again (Day 8-9)

Day 9 will begin at the recycling center, where recycling center personnel will explain, in more detail, the resource issues covered at PedX. These professionals will be able to answer specific questions about resource recycling and lead a service project at the center. Workshops and other activities will explain the chemical structures of glass, plastic, steel, tin, cardboard and paper products and demonstrate how chemistry is used in the recycling process. Creating diagrams and other graphical presentations, students will

demonstrate their understanding of basic chemical reactions and how humans can use them to manage resources in a sustainable way.

Organic Farm—Life Cycles (Day 9-10)

Like the recycling center project, the organic farm project also deals specifically with recycling of resources. While at the farm, the farmers will lead workshops and service projects that will reinforce and add to the chemistry learned at the recycling center. Workshops, service projects and other activities will help explain the chemical processes involved in cycling food waste back into the plants that produce the food. With diagrams and other graphical presentations, students will demonstrate their understanding of basic chemical reactions and how people use them to manage resources sustainably.

Service Project and Final Presentation (Day 11-21)

The final component of SCP is a major service project and presentation organized by the group. At the outset of the service project the students will review the notes from the group journal. The group will use the information in the group journal such as FVC revisions, and notes from group discussions to generate a list of criteria for what they should know and be able to do by the end of the program. From these criteria, the students will create a rubric for the final presentations.

Following the rubric activity, the students will spend three days brainstorming, considering appropriate options, planning, and organizing a service project. Examples of possible projects are a weeklong bike trip and cleanup from Arcata to Big Lagoon, the design and implementation of a student-run PedX program for a local school, or the organization of a school assembly presentation on sustainable community. The final

Service Project will pull together previous lessons and assignments in a process that combines all of what students have learned into a legitimate, meaningful expression of sustainable community.

Alongside the planning and performance of the service project, the students will write, rewrite, polish, and publish a project on sustainable community. This written form of the final presentation can take the form of a press release, proposal to the school board, or other public document. An oral presentation of the students' choice will also be given, such as a presentation at a school assembly, the city council, or local school board. The presentations will give the students a chance to demonstrate their skills and knowledge and allow them the public validation they will have earned.

Assessment

Final Assessment: Performance or Presentation of Learning

Presentations give students the opportunity to demonstrate what they've learned. Through both group and individual projects, the students explore a topic and collect information, which can then be organized and presented to an audience. Presentations are often given to a group of peers as well as professionals, and other adults who are able to assess the validity of the students' work in terms of "real world" scenarios. After presentations of this sort, the students will field questions about their presentation and discuss specific details with the audience. Any additions or changes will be noted in the students' journals. In addition to stimulating high quality work and giving students a

chance to interact with professionals, authentic presentations are rooted in the rite-of-passage idea of public validation.

Assessing Students' Overall Achievement

Student journals will serve as an ongoing portfolio of their learning throughout the program. Other student work such as the sustainable community plan developed at CCAT, other presentations, and written work done during the final week will contribute to this portfolio.

A student-created rubric informed the Full Value Contract (FVC) and notes from the group journal will be used to determine whether the students have accomplished their goals. Because the FVC will have been revised after every project, it will serve as a good source of criteria for goals and expectations the students have of themselves. In addition, the teacher can help the students identify the SCP goals in notes from the group journal, and they can extract criteria informed by the program goals. From these criteria, a rubric can be created for the final presentations. With the newly created rubric in mind, the students will have a clear understanding of their goals going into the final ten days of the program.

At the end of the course, students' final evaluation based on the rubric will be combined with teacher evaluations of journal work and presentations. Separate, teacher constructed rubrics will be used to assess the journal and presentations.

Resources

Books, Articles, Literature (Select titles for required and optional reading)

Barbarow, P. (1990). *Give Peas a Chance*. Happy Camp: California Naturegraph Publishers.

A fun approach to chemistry, the book covers specific lessons in chemistry through creative cartoons. It is a high school chemistry textbook crossed with Gary Larson's *The Far Side*. Could be useful for the Organic Farm Project.

Orr, D. (1994). *Earth in Mind*. Washington D.C.: Island Press.

This is a book of essays on environmental sustainability. Excerpts from this book could be used to generate discussions on the wilderness trip.

Zeihler L.C. (1996). *The Ecology of Architecture*

Discusses how sustainable community is viewed from an architectural standpoint. This is a good reference book for students who need help designing their sustainable communities at CCAT.

Ricklefs, R.E. (1990). *Economy of Nature*. New York: W.H. Freeman.

A college level textbook. This book covers a lot of the basic scientific principles involved in sustainable community. This is a great reference book.

Moeschl, R. (1993). *Exploring the Sky*. Chicago: Chicago Review Press.

A guide to hands on activities for astronomy and earth science. The book includes activities for building sundials, Maya calendars, proving the rotation of the earth, and drawing planetary orbits. This is a great resource for the earth science activity on the wilderness trip.

Edelstein, K. (1993). *Pond and Stream Safari: A Guide to the Ecology of Aquatic Invertebrates*. Cornell University: Cornell Cooperative.

This is a great field guide and activity packet for exploring freshwater ecology.

Experts

CCAT directors and staff, school teachers and administrators at Sunny Brae Middle School, Pacific Union, and Sunset schools in Arcata, owner of PedX, Potawot Health Village garden manager, Arcata Educational Farm manager, and Redwood Roots Community Supported Agriculture Farm manager, manager of the Arcata Community Recycling Center, City of Arcata officials.

Fieldwork Sites

HSU's Campus Center for Appropriate Technology, Sunny Brae Middle School, Pacific Union School, PedX, Potawot Health Village, Arcata Educational Farm, Redwood Roots Community Supported Agriculture Farm, Arcata Community Recycling Center.

Table 1: SCP Curriculum Calendar

Project	Day	Activity	Location
Wilderness Trip– Defining Sustainable Community	1	Introduction – fun games, ice breaker activities, group challenges, and low elements; Freewrite	Challenge Course
	2	Introduction – group challenges, low elements, and high elements; Freewrite	Challenge Course
	3	Everything I Need to Survive – prepare for trip; Freewrite	School, or other community location
	4	Embark on trip; discussion of community; decide upon tasks; Freewrite	To be chosen by the group from a list of appropriate options
	5	EOTO; solo; Freewrite; campfire ceremony	In the wilderness around the campsite
	6	Return trip and reflection; Freewrite	Trail back to civilization
CCAT–Designing Sustainable Communities	7	Tour CCAT and design sustainable communities; Freewrite	CCAT
PedX–Community Cycles	8	Tour of PedX; discussion; pick up and deliver recyclables; Freewrite	PedX, bike ride through Arcata to recycling center
Recycling Center– Cycling Again	9	Tour; chemistry lesson; service project; Freewrite	Recycling Center
Organic Farm— Life Cycles	10	Tour; chemistry lesson; service project; presentation; Freewrite	Organic Farm in Arcata
Service Project & Presentation Planning Day 1	11	Select a project and final presentation; brainstorm; organize ideas; Write	School, or other community location
Service Project & Presentation Planning Day 2	12	Plan and organize service project and final presentation; Rewrite	School, or other community location
Service Project & Presentation Planning Day 3	13	Plan and organize; make final preparations; Polish	School, or other community location
Service Project	14-20	Carry out community service project	Local community
Final Presentation	21	Deliver final presentation to a legitimate audience in the community; Publish	Local community

CONCLUSION

The SCP program provides needed rite-of-passage experiences to Humboldt County youth through a wilderness solo experience and legitimate projects and presentations aimed at improving their community. The SCP projects, which demonstrate techniques used for environmental sustainability, give youth knowledge, understanding and experience for sustaining the communities in which they live. The aim of the SCP program is to empower future generations to improve the global sustainability through the grass roots sustainability of local communities.

Although this program contains an environmentally focused ELOB curriculum, it should be understood that ELOB is used to teach math, English, history, foreign language and many other subjects (Cousins, 1995; Mednick, 1996; Campbell, 1998; Kilmister, 1999). The common thread throughout all ELOB curricula is an intense commitment to the rite of passage from youth to adult life. It is this commitment that makes ELOB so valuable.

A rite of passage is a ritual that facilitates the passage of an individual from one identity to another. This passage, and its resulting change in identity, can be either voluntary or imposed, and it involves three phases: separation, transition, and incorporation.

The literature raises several questions about Western culture's rites of passage from youth to adulthood. Are teen vandalism, violence, drug abuse and pregnancy the results of Western culture's inability to provide appropriate rites of passage?

Historically, youth rites of passage in our culture were more clearly defined because people entered the work force as youth. Today, it is more common for youth to stay in school, but that means that schools are responsible for facilitating this transition.

However, are they really doing that?

Upon analysis of the correlation between the state standards for public schools and SCP learning goals (Appendix C), one might make the mistake of concluding that SPC falls short in its attempt to meet the standards. However, learning goals such as those relating to “Quality of Character and Community” express important values underlying SCP that are not clearly represented in the state standards. For example the SCP learning goals include that “[s]tudents will practice and develop qualities of character and community, including undergoing a rite-of-passage experience that demarks their transition into adulthood.” One would be hard pressed to match this learning goal with a state standard.

Despite the alignment of SCP with public school standards, it will undoubtedly be difficult to find a way to implement SCP in a public school. Because of its use of authentic projects, community service, work with professionals and its need to break free from the confinement of the school building, SCP will undoubtedly come up against limited public educational funding, transportation costs, liability issues and time constraints faced by most public schools.

Regardless of barriers to changing curriculum in public schools, enough interest exists in Humboldt County for SCP to be successful. There are a number of private

schools, charter schools and home-schooled children that can benefit from SCP. SCP will also fulfill the lack of overnight summer opportunities for teens in Humboldt County.

SCP could most easily be implemented as a summer camp or summer school program. Once SCP is implemented, it will demonstrate how an education program can provide youth with factual knowledge, understanding, practical experience, and a healthy rite of passage into adulthood.

The solutions to global problems like unsustainable development will come from proper education. However, without healthy rites of passage and education about sustainability, young people of the world become adults ill-equipped to handle sustainability issues. Wendell Berry writes

We have no right to ask the world to conform to our desires. Sooner or later, if we hope to grow up, we have to confront the opposite imperative: that our rights and the realization of our desires are limited by human nature, by human community, and by the nature of the places in which we live. (p. 83)

If people are not raised with the right skills and knowledge, and an understanding of how to use their skills and knowledge, problems inevitably arise. On a societal level, this can lead to global problems. Creation of educational systems that provide healthy rites of passage for youth and mindful learning that is situated in social practice, global sustainability, and sound ethics will produce an empowered, sustainable global community.

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APPENDIX A
PROJECT OUTLINES

Wilderness Trip

Day 1: Challenge Course

What is Community?

The day begins with the Full Value Contract activity where the students define the goals and expectations of the group. Students participate in games and activities that break the ice, and ease them in to working together. After the icebreakers, the challenge course facilitator reads a selected reading on community. The teacher poses the guiding question and the discussion sets the stage for the group challenge activities which follow. The group participates in games, initiatives, and low-element challenges. Each student learns more about her or his own strengths and limitations by working with the group to overcome difficult challenges. Challenge course leaders will use these experiences to reinforce student understandings about community: Why is community important, what makes it strong, what makes it weak?

Estimated Time: 7.25 – 8 hours including lunch and snack breaks

Target Population: 7-15 middle school students (6th-8th grade)

Materials Needed:

- Access to challenge course
- Qualified challenge course leaders
- Permission slips and release forms
- Sack lunch for each student
- Selected reading
- Group Journal
- Individual journal and pen for each student
- List of student camping supplies needed (one for each student)

Guiding Question:

- **What is community, and how do you fit into a community?**

Learning Goals

Content – Students will understand:

- What community is and how they fit into a community.
- Each individual plays a unique and important role in a community of people that work together for the common good.

Skills and Habits – Students will practice and be able to do:

- Teamwork and individual activities that help to reach individual and community goals.

Quality of Character and Community – Students will practice and develop qualities of character and community, including:

- Undergoing a rite-of-passage experience that demarks their transition into adulthood.

Objectives:

- Get to know each other in a fun informal setting.
- Use team-building initiatives to make personal connections and learn the importance of community.
- Engage in a preliminary writing process (prewrite).
- Begin to express thoughts on community through writing (freewrite).

Preparation:

Meet with the challenge course leaders to inform them of your goals so that they can tailor activities and use language and metaphors that compliment the lesson goals. Select a reading on community, and print a copy to be read to the group.

Instructional Procedures:

1. Arrive at challenge course at 8:30 am.
2. Full Value Contract: Meet the challenge course facilitators who lead the group through the creation of the full value contract (FVC). Ask one of the students to volunteer to be the note taker and write the full value contract on the first page of the group journal. (20-30 minutes)
3. Icebreaker Activities: The group plays games that are designed to be fun and ease people into interacting with each other. (45 minutes)
4. Selected Reading: Ask a student to read the selected piece of literature, poem, or story aloud to the group. The teacher and facilitator pose the guiding question and facilitate a discussion. The group brainstorms key words and ideas, and reinforces new vocabulary. One of the students takes notes on the discussion in the group journal. (20-30 minutes)
5. Break (15 min)
6. Engage in more fun games, this time adding in some minor group challenges. Expect a need for a couple short breaks. (1.5 hours)
7. Lunch (1/2 hour)
8. Engage in initiatives, team-builders, and low-element challenges focusing on both individual challenge and teambuilding (community). (3.5 hours)
9. Freewrite Activity: Revisit the discussion and notes from the morning. Revise and update lists of words and ideas. Pass out a journal and a pen to each individual. Ask students to spend a few minutes writing about a time when they felt like a part of a community. (20-30 minutes)
10. Homework: Give each student a list of clothing and equipment to bring for day 3. (see Day 3 Materials).

Evaluation:

Compare notes from the morning discussion to those of the afternoon to determine what the students learned about community from participating in the team building activities. The day's journal entries indicate the groups' general understanding of community at the start of the program. Use students' journals as a log of their progress throughout the program. This activity precedes future writing projects, which will shed light on each student's learning progress.

Safety/Site Information:

Insure that the challenge course is equipped with a first aid kit and emergency plan prior to the visit. At least one adult present should be trained in first aid and CPR. Have your own back up emergency plan including information on the nearest medical facility.

Wilderness Trip
Day 2: Challenge Course
What is Sustainability?

Students will perform challenging tasks such as climbing thirty feet into the trees and walking across a suspended log (while in a safety harness of course). Each student is encouraged to challenge herself and define and expand her own limits. The group takes on challenges, and they succeed and fail together. Challenge course leaders use these experiences to reinforce student understandings about community and introduce the concept of sustainability: What is community, and how do you fit into a community? What is sustainability, and how does it relate to community? Students talk about and practice social skills important for sustaining a community, such as communication and cooperation.

Estimated Time: 7.25 – 8.25 hours including lunch and snack breaks

Target Population: 7-15 middle school students (6th-8th grade)

Materials Needed:

- Access to challenge course
- Qualified challenge course leaders
- Permission slips and release forms
- Sack lunch for each student
- Selected reading
- Group journal
- Individual journals
- Lists of camping supplies

Guiding Questions:

- **What is sustainability, and how does it relate to community?**
- What is community, and how do you fit into a community?

Learning Goals

Content – Students will understand:

- What community is and how they fit into a community.
- What sustainability is and how it relates to community.
- Each individual plays a unique and important role in a community of people that work together for the common good.
- The value of the natural world

Skills and Habits – Students will practice and be able to do:

- Teamwork and individual activities that help to reach individual and community goals.

Quality of Character and Community – Students will practice and develop qualities of character and community, including:

- Undergoing a rite-of-passage experience that demarks their transition into adulthood.

Objectives:

- Continue to build group cohesion using team-building initiatives.
- Inspire individuals to challenge themselves to expand their comfort zone.
- Engage in a preliminary writing process (prewrite).
- Begin to express thoughts on sustainability through writing (freewrite).

Preparation:

Meet with the leaders of the course to inform them of your goals so that they can tailor activities and use language that address lesson goals. Select a reading on sustainable community, and print a copy to be read to the group.

Instructional Procedures:

1. Arrive at the ropes course at 8:30am.
2. Do a fun warm-up activity to wake up and focus everyone's attention. (15 minutes)
3. Review Full Value Contract. (5 minutes)
4. Review group notes from previous lesson. (5 minutes)
5. Selected Reading: Ask a student to read the selected reading aloud. Pose the new guiding question. Brainstorm key words and ideas, and reinforce new vocabulary. Write down key words and ideas that the group comes up with. (20-30 minutes)
6. Use the low elements portion of the ropes course to focus on teamwork, group problem solving, group decision-making, and individual and group challenge. Refer to the guiding questions whenever possible. (2.5 hours including a 15 minute break)
7. Lunch (1/2 hour)
8. Use high elements of the ropes course to enforce the groups understanding of sustaining a community. (3.5 hours)
9. Freewrite Activity: Revisit discussion and notes from the two previous prewrite activities. Revise and update lists of words and ideas. Ask students to spend a few minutes individually writing about the why sustainability is important. (30 minutes)
10. Remind students to bring everything they will be bringing on the camping trip for tomorrow's activities. Find out who needs what items and who has extras. Make a list of extra items that group leaders will have to supply. (15 minutes)

Evaluation:

Compare notes from the previous prewrite discussions to those of this afternoon, and look for indications of the development of the groups understanding of sustainability and community. Look for gaps in understanding as well as strong areas. Use students' journals as a log of individual progress throughout the program. Although each student will move at her/his own pace, each individual's thoughts on sustainable community should become more sophisticated as the course progresses.

Safety/Site Information:

Insure that the challenge course is equipped with a first aid kit and emergency plan prior to the visit. At least one adult present should be trained in first aid and CPR. Have your own back up emergency plan including information on the nearest medical facility.

Wilderness Trip
Day 3
Everything I Need To Survive

The group spends the day planning for the backpacking trip. They study maps, calculate food rations and purchase supplies, test out equipment, and discuss safety and emergency plans. The underlying theme of this lesson is to learn what resources are vital to survival. The group's survival is discussed in light of previous sustainable community discussions.

Estimated Time: 7.25 – 8 hours including lunch and snack breaks

Materials Needed:

- School, or other community location to spend the day
- Chalkboard or dry erase board and chalk or markers
- Large open area such as an athletic field or gymnasium
- Sandbox
- Yarn
- Scissors
- Several calculators and scratch paper
- Money (enough for purchasing all of the food for the trip and rent or buy any hiking equipment)
- Transportation to and from the store
- An adult capable of teaching First Aid/ CPR

Equipment

- Trail maps of the wilderness area (one photocopy per person)
- Compass (one for every two or three people)
- Water filters (one for every three people)
- Backpacking Stove (one for every four people)
- Cooking fuel enough to cook 3 meals for the whole group
- Tents (enough to sleep everybody while keeping boys and girls separate)
- One backpack per person
- One sleeping bag and ground pad per person
- One water bottle per person
- One flashlight per person
- One garbage bag per person
- Sunscreen (enough for everybody)
- One pair of hiking boots per person
- 50-100 feet of nylon rope for hanging food
- first aid kit

Clothes

- Three pairs of sox and underwear per person
- One polyester or other **non-cotton** t-shirt per person
- One short sleeved cotton t-shirt per person

- One long sleeved cotton t-shirt per person
- One pair of pants and shorts per person
- One rain slicker per person
- One hat with sun visor per person

Guiding Questions:

- **What resources do you have to think about when trying to sustain yourself in the wilderness?**
- What is community, and how do you fit into a community?
- What is sustainability, and how does it relate to community?

Learning Goals

Content – Students will understand:

- What sustainability is and how it relates to community.
- What community is and how they fit into a community.
- Each individual plays a unique and important role in a community of people that work together for the common good.
- The value of the natural world.

Skills and Habits – Students will practice and be able to do:

- Teamwork and individual activities that help to reach individual and community goals.

Quality of Character and Community – Students will practice and develop qualities of character and community, including:

- Undergoing a rite-of-passage experience that demarks their transition into adulthood.

Objectives

- Identify what is necessary to sustain ones self in the wilderness
- Engage in dialogue about resources needed for survival
- Discuss the difference between being alone in the wilderness and having a group.
- Learn how to use the hiking equipment such as water filter, stove, map and compass
- Take an active role in their own survival by planning and preparing for a 3-day wilderness expedition

Preparation:

Students and parents should be given adequate notice to prepare the required clothing, equipment, and other necessary items for the trip. Students and parents should be given a list of required and recommended items for the wilderness trip on the first day of the program or sooner. On days one and two, teachers should ask students if they are missing anything on the supply list to facilitate borrowing of items. The students should come with all their supplies, prepared to leave for the trip on day three (parents should be reminded that they need not hassle with packing everything because the kids will do it together).

Instructional Procedures:

1. Discussion and Brainstorm: Begin the day with a group discussion initiated by the guiding questions. Select a student to help facilitate and write on the board as the group brainstorms a list of necessary resources. Separate the resources into groups based on their similarities (food, hiking gear, safety/first aid/proper clothing). (1 hour)
2. Food = Fuel: Make a meal schedule for the time the group will be in the wilderness. Decide on meals, remembering that people have to carry everything through several miles of wilderness, so lighter options should be substituted whenever possible (there will be other chances for people to show their strength). Make a comprehensive list of all food items the group needs and send an adult out to purchase the food. Stress the importance for everyone to have a healthy breakfast the following morning. (1 hour)
3. Task Chart: Divide the students into two groups to share cooking and cleanup tasks at the campsite. The specific tasks for cooking includes: food preparation, lighting the stove, and filtering water. The specific tasks for cleanup are washing dishes, picking up trash, putting away equipment (cooking and other) that has been left out. The members of each group will have to choose who will do which specific task. Make a chart (or schedule) of tasks in the group journal. (30 minutes)
4. Toolwheel: Lay the hiking equipment out on the floor and form a circle around it. First, distribute one map, flashlight, backpack, and water bottle. Next, name each remaining item (water filter, backpack, tent, food, and stove) and discuss the function of each one. Ask the students what resource each item provides. Ask someone to demonstrate how to use the water filter. Let people take turns using and testing out the filters to make sure they work. Put an old filter that does not work inside one of the water filter devices beforehand. When the students using that device discover that it does not work, ask each group to disassemble their water filtration device and inspect the filter for problems. Next, demonstrate how to use the stove and have each student work with an adult until she or he can light it without help. Discuss the safety issues around using fire in the wilderness or anywhere. Stress the importance of conserving fuel and only using the stove when you need to eat. (1.5 hour including snack)
5. Lunch (30-45 minutes)
6. Shelter: Determine who will share which tents, and have the sleeping groups practice setting up and breaking down their tents. Once the tents have been broken down, evenly distribute the tent, poles, and rain fly by weight within each sleeping group. (1 hour)
7. Pack the Bags: Perform a demonstration on how to pack the backpacks. Placing the heavier items and ones that are not used during the hike on the bottom, and the lighter, more used items on top. At the end of this activity, each student should have her or his bag packed correctly. Ask the students how the trip would be different if they were doing it alone. (1 hour)
8. Safety: Search and rescue activity. Basic first aid and CPR. (1 hour)

9. Leave No Trace: Go over the wilderness guidelines for low-impact camping. (20 minutes)
10. Journal: Have each student write down four resources they need in the wilderness and an item that provides them with each resource. Freewrite for 20 minutes about other thoughts, feelings, ideas. (20 minutes)
11. Students leave their equipment with the group leaders until the following morning.

Evaluation:

At the end of the day each student should have her or his bag packed correctly. She or he should be able to ration food, light the stove, pump water, and set up the tent. Each of these tasks represents a different resource that is necessary for survival. The journal activity at the end of the day will quiz them on what they understand about these crucial resources, and will serve as a pre-assessment of students' understanding of resources.

Safety/Site Information:

Be aware of the safety protocol for the building you are using.

Wilderness Trip
Day 4
It's Off to the Woods We Go

Students hike into the wilderness. Along the trail, the group stops to study wildlife and learn about ecology. After reaching the campsite and setting up camp, students read poetry and literature that generate discussion around the guiding questions.

Estimated Time: 24 hours

Target Population: 7-15 middle school students (6th-8th grade)

Materials Needed:

- 4 Adults trained in First Aid/CPR, At least one should be trained in wilderness First Aid/CPR
- Backpack containing: sleeping bag, ground pad, water bottle, flashlight, map, food, garbage bag hat, and appropriate clothing for each person (each person may not carry an exact ration of food due to bulk quantities)
- 50-100 feet of rope
- Sunscreen

Educational Supplies

- Selected literary excerpts on rite of passage, nature, and sustainable community
- The Full Value Contract from the ropes course
- Activity guides and handouts for the Ecology, Earth Science, and Life Science activities (enough copies to share among two or three people after splitting into three groups)
- Flower, berry, tree, and aquatic insect identification booklets
- 4x Lucite Magnifying Chambers (enough for half of the group)
- Water test kit for pH, nitrate, phosphate, and dissolved oxygen

Guiding Questions:

- How is surviving in the wilderness like and unlike a modern community that is trying to sustain itself?
- What is community, and how do you fit into a community?
- What is sustainability, and how does it relate to community?
- What resources do you have to think about when trying to sustain yourself in the wilderness?

Learning Goals

Content – Students will understand:

- The value of the natural world.

Skills and Habits – Students will practice and be able to do:

- Teamwork and individual activities that help to reach individual and community goals.

Quality of Character and Community – Students will practice and develop qualities of character and community, including:

- Undergoing a rite-of-passage experience that demarks their transition into adulthood.

Objectives:

- Gain an appreciation for nature as well as the amenities of modern life as we carry our packs through the wilderness to the campsite.
- Perform individual tasks that are crucial to the survival as a group.
- Choose a specialty area to begin studying in depth and to gain an understanding of the natural world.

Preparation:

The trail and campsite for the wilderness trip should be familiar to the teachers and other trip leaders. The trail and campsite are chosen with the specific wilderness trip activities in mind. Parents receive directions to the trailhead and a time to meet the group as they come to the end of the trail.

Instructional Procedures:

1. Meet at a predetermined place and go together to the trailhead. At the trailhead review safety, the travel rout, leave no trace, and the FVC.
2. Hike to the campsite. It will be necessary to stop along the way to rest and snack. At the first stop, (perhaps an hour or less into the hike) discuss what Life Science, Earth Science and Ecology are. Ask the students to think about which of the three they would like to specialize in for the remainder of the trip. Tell them they will be doing an in-depth study tomorrow and teaching people about their topic. At the second stop, students should decide which topic they will specialize in. Pass out the appropriate field guide to each group reminding them to be observant along the trail so that they do not miss any important scientific discovery opportunities. At the third stop, ask someone to read a selected piece of literature aloud to the group.
3. Setup Camp: When the group arrives at camp, assign tasks according to the task chart, set up tents, gather firewood, and prepare dinner. Select a place to meet for group activities, and make sure everyone knows where it is.
4. Freewrite: Ask students to spend a few moments writing in their journals feelings, thoughts, ideas that have come up over the course of the day.
5. Nightwalk: Participate in a night walk activity studying astronomy or nocturnal animals.
6. Lights out at 10:00

Safety/Site Information:

The safety talk at the outset of the trip will reinforce all safety considerations already covered in the course and bring up any new ones.

Wilderness Trip
Day 5
Rites of Passage

In the morning, students spend time exploring and learning about the ecology and natural history of the place they are camping. In the afternoon, each student is taken to her/his own place where she/he will remain alone until the evening campfire ceremony.

Estimated Time: 24 hours

Target Population: 7-15 middle school students (6th-8th grade)

Materials Needed:
 Same as day 4

Guiding Questions:

- How is surviving in the wilderness like and unlike a modern community that is trying to sustain itself?
- What is community, and how do you fit into a community?
- What is sustainability, and how does it relate to community?
- What resources do you have to think about when trying to sustain yourself in the wilderness?

Learning Goals

Content – Students will understand:

- Planet Earth is a complex living system where resources (energy, space, materials) are stored and cycled between a large number of diverse organisms and places.
- The number and types of organisms an ecosystem can support depends on the resources available.
- Students know the natural origin of materials used to make common objects.
- Humans play a unique role on Earth because we can control the cycles of resources (energy, space, materials) and abiotic factors (water quality, air quality, soil composition, and global temperature).
- Different natural energy and material resources, including air, soil, rocks, minerals, petroleum, fresh water, wildlife, forests, sunlight, wind, geothermal, and biogas, and know how to classify them as renewable or non-renewable.
- Plants and animals have different levels of organization for structure and function including cells, tissues, organ systems, and the whole organism. Likewise, Earth has different levels of organization for structure and function including organisms, ecosystems, biomes, bioregions, and the whole planet.

- What sustainability is and how it relates to community.
- What community is and how they fit into a community.
- Each individual plays a unique and important role in a community of people that work together for the common good.
- The value of the natural world.

Skills and Habits – Students will practice and be able to do:

- Teamwork and individual activities that help to reach individual and community goals.

Quality of Character and Community – Students will practice and develop qualities of character and community, including:

- Undergoing a rite-of-passage experience that demarks their transition into adulthood.

Objectives:

- Explore areas of personal interest
- Teach others about areas of personal interest
- Spend time alone in the wilderness
- Celebrate

Preparation:

The campsite should be familiar to the teachers and other trip leaders. It should have been chosen with the wilderness trip activities in mind. Solo sites should be chosen with safety and solitude in mind. Students' with special needs should also be considered when planning the solo experience. A special dinner or desert should be planned for the feast so that it is a special treat for the students.

Instructional Procedures:

1. Wake up the breakfast crew at 6:45 to prepare breakfast. Wake everyone else up by 7:00. Eat and clean up by 8:00.
2. 8:00 – Meet at the gathering place and ask students to bring their reference books and journals. Form the group into a circle, and perform some warm-up stretches. Read a selection about sustaining natural communities. Discuss this briefly, noting any important points in the group journal. (Refer to the SCP book resource list for books containing good warm-up activities.) During the Specialty Groups and EOTO activities, the fourth adult should spend the morning staking out and mapping the sites for the wilderness solos. The sites should ideally be within earshot of the camp but not each other, and it should be easy for the adults to check on the students.
3. 8:30 – Specialty Groups: Separate the students into the specialty groups they decided on yesterday. Have each group find their own meeting place to sit down and introduce the lesson. At-least one adult should accompany each group to hand out activity sheets and facilitate the lesson. Once the activity has been introduced, each group should set out on their missions. Reconvene the groups to their meeting spots for snack and review. The students should report what was discovered, and review the questions on the activity sheet. (2.5 Hours)

4. 10:30 – EOTO: Form the students into groups of three with a representative from each specialty in all the groups (groups of four may be necessary in cases where there are uneven numbers). In this case, the group can split in half for one round so that the two students from the same specialty can get the experience of being the teacher). Each student should spend 30 minutes leading the other two students in their group on a “tour,” teaching them about his or her specialty. Collect the students’ journals.
5. 12:00 – Lunch
6. 1:00 Solo: Form a group circle in the large meeting space. Begin by reading a quote, poem, or other piece of literature about rite of passage. Discuss what rite of passage, youth, and adult mean. Mention points from the FVC that are relevant to the solo experience, and go over the rules for the wilderness solo. These rules will vary slightly depending on the terrain and nature of the wilderness area, but they should always consider safety and solitude. Each student should be taken to his or her place with nothing except for a full water bottle and appropriate clothing. The students’ names should be marked in the appropriate places on the map. Adults should have a system for monitoring the students. The adults should have dinner prepared and a campfire burning for the students’ return to camp.
7. One hour before the end of the solo, bring the students’ journals to them so that they can write about any observations, thoughts, or feelings that came up during the solo.
8. Dusk: Bring the students back one by one to form a circle around the campfire. Welcome the students back and congratulate them for completing the solo. Briefly touch upon major points from the rite-of-passage discussion earlier. Have one of the adults tell the transition story.
9. Feast: Eat dinner around the campfire.
10. Campfire Ceremony: Celebrate by, telling stories, singing songs, and playing games.

Evaluation:

The relative progression of students’ understandings about sustainable community will be evaluated through journal writings and responses in group discussions. Students’ understandings on day six will be compared to their understandings on previous days as well as projects later in the program.

Safety/Site Information:

Same as day 4

Instructional Procedures:

1. Wake up the breakfast crew at 6:45 to prepare breakfast. Wake everyone else up by 7:00. Eat and clean up by 8:00.
2. 8:00 – The group packs up camp, each person performing his or her role in cleaning up the campsite, breaking down tents, and packing up the backpacks. Make sure all garbage is picked up and the campsite is the way you found it.
3. 10:00 – Freewrite: The students are given some time to write down their observations, thoughts, and feelings about the wilderness trip.
4. On the trail back, stop at the halfway point for lunch, and to reflect as a group on important lessons that were learned. Ask students to share entries from their journals. Ask students how surviving in the wilderness is like and unlike surviving in modern society. Use the group journal to take note of these important lessons for future projects. Review the FVC and make any changes that the group feels is necessary.
5. 3:00 (approximately) – When the group returns to the trailhead, parents are waiting for their children. Arrange everyone into a large circle. The trip leader makes a speech about rites of passage. The leader mentions the challenges the students have overcome, asks for public recognition of their feats, and discusses how the activities of the following weeks will facilitate the students' incorporation into adult society. Perform a short activity to give closure to the experience.

Evaluation:

The relative progression of students' understandings about sustainable community will be evaluated through journal writings and responses in group discussions. Students' understandings on day six will be compared to their understandings on previous days as well as projects later in the program.

Safety/Site Information:

Same as days 4 and 5

Campus Center for Appropriate Technology (CCAT)
Designing a Sustainable Community

This lesson is designed to get the students excited about sustainability and give them a chance to have interactions with college students. Students learn about cutting-edge technology used to make communities more sustainable and discuss it with the college students working on the projects. CCAT is a creative and friendly place, where students can touch, taste, hear, see, and smell their way toward understanding sustainability.

Estimated Time: 7.25 – 8 hours including lunch and snack breaks

Target Population: 7-15 middle school students (6th-8th grade)

Materials Needed:

- permission to use CCAT for the day
- CCAT directors and/or staff to watch presentations
- video clip on resource cycling
- smoothie ingredients: approximately 6 oz ice cream & 6 oz fruit for each person
- scratch paper, pens, pencils, markers, crayons, colored pencils
- assorted arts & craft supplies (i.e. glue, yarn, colored paper, sticks, glitter)
- CCAT meeting room reserved for presentation time, and adequate seating for class and CCAT directors

Guiding Questions:

- What techniques are used to strengthen communities and make them sustainable?
- How is surviving in the wilderness like and unlike a modern community that is trying to sustain itself?
- What does sustainability mean?
- What does it mean to be a part of a community?

Learning Goals

Content – Students will understand:

- What community is and how they fit into a community.
- Each individual plays a unique and important role in a community of people that work together for the common good.
- What sustainability is and how it relates to community.
- The value of the natural world.
- The number and types of organisms an ecosystem can support depends on the resources available.
- Planet Earth is a complex living system where resources (energy, space, materials) are stored and cycled between a large number of diverse organisms and places.

- The natural origin of materials used to make common objects.
- Humans play a unique role on Earth because we can control the cycles of resources (energy, space, materials) and abiotic factors (water quality, air quality, soil composition, and global temperature).
- Different natural energy and material resources, including air, soil, rocks, minerals, petroleum, fresh water, wildlife, forests, sunlight, wind, geothermal, and biogas, and know how to classify them as renewable or non-renewable.
- Plants and animals have different levels of organization for structure and function including cells, tissues, organ systems, and the whole organism. Likewise, Earth has different levels of organization for structure and function including organisms, ecosystems, biomes, bioregions, and the whole planet.
- Physical principles of light and how it is used by different organisms.
- The value of the natural world.

Skills and Habits – Students will practice and be able to do:

- Teamwork and individual activities that help to reach individual and community goals.

Quality of Character and Community – Students will practice and develop qualities of character and community, including:

- Undergoing a rite-of-passage experience that demarks their transition into adulthood.

Objectives:

- Discuss what resources are and brainstorm a list of resources by reflecting on the wilderness trip.
- Observe a demonstration of appropriate use of resources on a tour of CCAT.
- Use pedal-powered T.V.-VCR, washing machine, and drill press. Make smoothies with a pedal powered blender.
- Create a plan for a sustainable community showing appropriate use of resources from the resources list. Implement ideas from CCAT and/or create new ideas for making a sustainable community.
- Present sustainable community plans to the directors of CCAT.

Instructional Procedures:

1. Take a tour of CCAT. Follow one of the CCAT directors through “a day in the sustainable life.” See how they heat their bedroom from the greenhouse, store food in a cold box, cook food in a hot box, compost human waste, and watch movies on a pedal-powered T.V.-VCR. View a short video on the pedal-powered T.V.-VCR about resource cycles. Visit the pedal powered workshop and try out the human-powered drill press. (1 hour)
2. Snack: Students take turns pedaling the pedal-powered blender and making smoothies to eat. (1/2 hour)

3. Activity: Salmon Bear Mosquito (see attached instructions). Discuss how Salmon Bear Mosquito is a demonstration of the movement of energy resources from one organism to another. Tie it into the big picture by discussing the roles of producers (plants) in producing energy and how that energy is cycled. Discuss how energy is a resource and that there are other types of resources that are equally important (material and space). Talk about what it means for a resource to be renewable. As a class, brainstorm a list of resources that human and natural communities need. Put a mark by all the renewable resources. (1 – 1 ¼ hour)
4. Break for lunch. (30-45 minutes)
5. Separate students into groups of 3-5. Use scratch paper and colored pencils to begin plans for the ultimate sustainable dream community. Talk to CCAT directors, technical assistants, gardeners, and volunteers about creating a sustainable community. Use other CCAT educational resources: library, internet, and real-life examples for information to include in the presentations. Finalize plans and create a 5 to 7-minute oral presentation about the sustainable community plans, and a display representing what makes it sustainable. (3 hours)
6. Snack (15 minutes)
7. Presentations: Everyone meets in the CCAT meeting room where CCAT directors and staff are waiting to see the presentations (it is good to create a somewhat formal setting for the presentations and to encourage the students to do their best). Groups present their plans for sustainable communities to the directors of CCAT and field questions. When necessary the groups discuss ways of improving the plan to make their sustainable community work. (1 – 1 ¼ hour)

Evaluation:

Students will demonstrate understanding of the learning goals by presenting their sustainable community plans to professionals and answering questions. If students are able to convince the CCAT directors and staff that their community would be sustainable, then the goals of this lesson have been achieved. If the plan needs work, the group can discuss revisions with the professionals and learn where further understanding is needed.

Safety/Site information:

CCAT is located on a hill with lots of uneven ground, tools, and abnormal objects. The group should spend a few minutes before the tour to review the full value contract—the group's self-defined safety, teamwork, and communication agreement (see wilderness trip day 1). They should discuss any special safety precautions for the site of this lesson. In case of an emergency, there are first aid supplies and telephones in the office and workshop, and the center is located within 15 minutes of the nearest hospital.

APPENDIX B

EXPEDITIONARY LEARNING OUTWARD BOUND DESIGN PRINCIPLES

EXPEDITIONARY LEARNING OUTWARD BOUND DESIGN PRINCIPLES

Learning is an expedition into the unknown. Expeditions draw together personal experience and intellectual growth to promote self-discovery and construct knowledge. We believe that adults should guide students along this journey with care, compassion, and respect for their diverse learning styles, backgrounds, and needs. Addressing individual differences profoundly increases the potential for learning and creativity of each student.

Given fundamental levels of health, safety, and love, all people can and want to learn. We believe expeditionary learning harnesses the natural passion to learn and is a powerful method for developing the curiosity, skills, knowledge, and courage needed to imagine a better world and work toward realizing it.

1. THE PRIMACY OF SELF-DISCOVERY

Learning happens best with emotion, challenge, and the requisite support. People discover their abilities, values, "grand passions," and responsibilities in situations that offer adventure and the unexpected. They must have tasks that require perseverance, fitness, craftsmanship, imagination, self-discipline and significant achievement. A primary job of the educator is to help students overcome their fear and discover they have more in them than they think.

2. THE HAVING OF WONDERFUL IDEAS

Teach so as to build on children's curiosity about the world by creating learning situations that provide matter to think about, time to experiment, and time to make sense of what is observed. Foster a community where students' and adults' ideas are respected.

3. THE RESPONSIBILITY FOR LEARNING

Learning is both a personal, individually specific process of discovery and a social activity. Each of us learns within and for ourselves and as a part of a group. Every aspect of a school must encourage children, young people, and adults to become increasingly responsible for directing their own personal and collective learning.

4. INTIMACY AND CARING

Learning is fostered best in small groups where there is trust, sustained caring, and mutual respect among all members of the learning community. Keep schools and learning groups small. Be sure there is a caring adult looking after the progress of each child. Arrange for the older students to mentor the younger ones.

5. SUCCESS AND FAILURE

All students must be assured a fair measure of success in learning in order to nurture the confidence and capacity to take risks and rise to increasingly difficult challenges. But it is also important to experience failure, to overcome negative inclinations, to prevail against adversity, and to learn to turn disabilities into opportunities.

6. COLLABORATION AND COMPETITION

Teach so as to join individual and group development so that the value of friendship, trust, and group endeavor is made manifest. Encourage students to compete, not against each other, but with their own personal best and with rigorous standards of excellence.

7. DIVERSITY AND INCLUSIVITY

Diversity and inclusivity in all groups dramatically increase richness of ideas, creative power, problem-solving ability, and acceptance of others. Encourage students to investigate, value, and draw upon their own different histories, talents, and resources together with those of other communities and cultures. Keep the schools and learning groups heterogeneous.

8. THE NATURAL WORLD

A direct and respectful relationship with the natural world refreshes the human spirit and reveals the important lessons of recurring cycles and cause and effect. Students learn to become stewards of the earth and of the generations to come.

9. SOLITUDE AND REFLECTION

Solitude, reflection, and silence replenish our energies and open our minds. Be sure students have time alone to explore their own thoughts, make their own connections, and create their own ideas. Then give them opportunity to exchange their reflections with each other and with adults.

10. SERVICE AND COMPASSION

We are crew, not passengers, and are strengthened by acts of consequential service to others. One of a school's primary functions is to prepare its students with the attitudes and skills to learn from and be of service to others.

The above principles have been informed by Kurt Hahn's "Seven Laws of Salem," by Paul Ylvisaker's "The Missing Dimension," and by Eleanor Duckworth's "The Having of Wonderful Ideas" and Other Essays on Teaching and Learning (New York: Teachers College Press, Columbia University, 1987).

APPENDIX C

TABLE OF LEARNING GOALS BY LESSON

L e a r n i n g G o a l s	Wild 1&2	Wild 3	Wild 4-6	CCA T	Ped X	Rec Ctr	Farm	Svc Proj
CONTENT – Students Will understand:								
What community is and how they fit into a community	X	X	X	X	X	X	X	X
Each individual plays a unique and important role in a community of people that work together for the common good	X	X	X	X	X	X	X	X
What sustainability is and how it relates to community	X	X	X	X	X	X	X	X
Planet Earth is a complex living system where resources (energy, space, materials) are stored and cycled between a large number of diverse organisms and places			X	X	X	X	X	X
The value of the natural world		X	X	X	X	X	X	X
The number and types of organisms an ecosystem can support depends on the resources available			X	X	X	X	X	X
The natural origin of materials used to make common objects			X	X				
Humans play a unique role on Earth because we can control the cycles of resources (energy, space, materials) and abiotic factors (water quality, air quality, soil composition, and global temperature)			X	X	X	X	X	X

	Wild 1&2	Wild 3	Wild 4-6	CCA T	Ped X	Rec Ctr	Farm	Svc Proj
Oral, written, and graphical explanations effectively communicating the basic chemical processes of recycling glass, plastic, paper, and common metals						X		
Oral, written, and graphical explanations effectively communicating the basic biological processes of composting							X	
Oral, written, and graphical explanations effectively communicating the structure of organic and inorganic matter					X	X	X	
Oral, written, and graphical explanations effectively communicating the cycling of matter in compost and how it relates to the big picture of resource cycling					X		X	
Participation in the cycling of resources within the community by assisting with compost and recycling routines carried out by local organic farms, recycling centers, and resource-related organizations					X	X	X	X

Learning Goals Table Abbreviations: Wild 1 & 2—Wilderness Trip Project 1 & 2; Wild 3—Wilderness Trip Project 3; Wild 4-6—Wilderness Trip Project 4-6; CCAT—CCAT Project; PedX—PedX Project; Rec Ctr—Recycling Center Project; Farm—Organic Farm Project; Svc Proj—Service Project

Appendix D

Learning Goals and California Science Standards for Grades 6-8

Learning Goals	Science		
	Grade 6	Grade 7	Grade 8
CONTENT – Students will understand:			
What community is and how they fit into a community			
Each individual plays a unique and important role in a community of people that work together for the common good			
What sustainability is and how it relates to community			
Planet Earth is a complex living system where resources (energy, space, materials) are stored and cycled between a large number of diverse organisms and places.	5a,b		
The value of the natural world.			
The number and types of organisms an ecosystem can support depends on the resources available	5e		
The natural origin of materials used to make common objects	6c		
Humans play a unique role on Earth because we can control the cycles of resources (energy, space, materials) and abiotic factors (water quality, air quality, soil composition, and global temperature)	5e, 6a		
Different natural energy and material resources, including air, soil, rocks, minerals, petroleum, fresh water, wildlife, forests, sunlight, wind, geothermal, and biogas, and know how to classify them as renewable or non-renewable	6c		
Plants and animals have different levels of organization for structure and function including cells, tissues, organ systems, and the whole organism. Likewise, Earth has different levels of organization for structure and function including organisms, ecosystems, biomes, bioregions, and the whole planet		5a,b	
Physical principles of light and how it is used by different organisms		6a,b	
Basic Chemical reactions			5a-e
Chemistry of living systems			6a-c
The basic structure of matter			3a-f
The periodic table of the elements			7a-c
SKILLS AND HABBITS – Students will practice and be able to do:			
Teamwork and individual activities that help to reach individual and community goals			
Oral, written, and graphical explanations effectively communicating the basic chemical processes of recycling glass, plastic, paper, and common metals			

	Grade 6	Grade 7	Grade 8
Oral, written, and graphical explanations effectively communicating the basic biological processes of composting			
Oral, written, and graphical explanations effectively communicating the structure of organic and inorganic matter			
Oral, written, and graphical explanations effectively communicating the cycling of matter in compost and how it relates to the big picture of resource cycling			
Participation in the cycling of resources within the community by assisting with compost and recycling routines carried out by local organic farms, recycling centers, and resource-related organizations			
Communication with community members and organizations to organize a recycling or compost program (or both!) in their community, or help to maintain an established compost or recycling program. The program can be for a school, neighborhood, community organization, or city. It can be as big or small as necessary, but should involve the entire group			
Presenting information on composting and recycling to the local media, city council, school board, or other group in a way that shares important information with a legitimate audience			
Helping the community to cycle compost and recycling			
QUALITY OF CHARACTER AND COMMUNITY – Students will participate in activities to practice and develop qualities of character and community, including:			
A healthy rite-of-passage experience that demarks their transition into adulthood.			