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ENVIRONMENTAL AWARENESS AND SUSTAINABLE
DEVELOPMENT CURRICULUM IN ENGLISH-AS-
A-SECOND-LANGUAGE ADULT EDUCATION

A Project
Presented to the
Faculty of
California State University,
San Bernardino

In Partial Fulfillment
of the Requirements for the Degree
Master of Arts
in
Education:
Teaching English to Speakers of Other Languages

by
Ian Griffith
March 2004

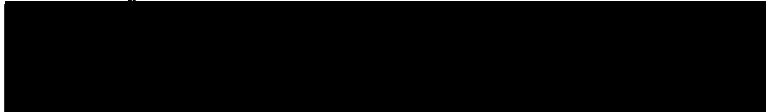
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Approved by:


Dr. Lynne Diaz-Rico, First Reader


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March 9, 2004
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ABSTRACT

The environment, pollution, and sustainability are global issues. According to estimates, if pollution makes it increasingly impossible for the Earth to neutralize the waste products generated by societies, the Earth will eventually become uninhabitable. As this is a global, multicultural problem, it is a useful "tool" for teaching ESL students vocabulary, critical thinking, and communication skills.

Because the environmental issues are global in nature, multicultural, and authentic, the teacher can utilize real-world situations to teach students interactively, creating "communities" in the classroom. The teacher can use case studies and simulations to involve students and teach vocabulary, critical thinking, and techniques of negotiation.

This project provides the tools and framework for an ESL classroom experience that informs citizens about sustainable development and that emphasizes the connections between distinct subject areas. Instead of weakening individual disciplines, education about the environment, pollution, and sustainability offers an opportunity to strengthen each discipline by demonstrating

fundamental relationships. This will help students apply what they learn to their daily lives.

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CHAPTER ONE

INTRODUCTION

Background of the Project

Dewey believed that all education should be related to experience. He felt that one of the principles of learning was the interaction between learners and their environment. Dewey believed that the act of thinking itself was a means of solving problems. When difficulty arises, the nature of the problem should be determined. After this, all the possible solutions must be looked into and potential outcomes assessed. Finally, the best solution is used. Dewey believed that this process should be used to guide education (Houle, 1972). ESL, combined with a multicultural education program, can incorporate experiential learning to involve students in classroom discussion, critical thinking and negotiating.

Role of Case Studies and Simulations

Case studies and simulations are effective tools for education. Case studies are effective because they are "real world" scenarios that bring students face to face with complex issues and problems. Case studies have long been used in undergraduate and graduate courses to help teach law, business, medicine, and international

relations. Case studies are valuable because they address relevant questions and explain issues and events. This is an interesting, stimulating, and challenging process that forces students to "think on their feet," and to draw upon their interpretation about why things actually happen (Baker & Mendelsohn, 1997). The use of case studies in ESL provides the means to involve students in an active approach to learning language skills in a "real world" situation. Once the students learn the vocabulary and principles used in the case study approach to problem solving, an active experiential approach called simulation can be used to deepen their involvement and understanding. Both case studies and simulations use basic skills such as speaking, reading, writing, researching, and formulating while incorporating thinking and problem solving.

The Environment: A Perfect Tool to Teach Vocabulary and Global Principles

The environment is a perfect "tool" to teach vocabulary and global principles in English-as-a-second-Language (ESL). The physical environment is indeed the most fundamental aspect of human existence on the planet. It includes things such as air, water, and land. Without these things, life as we know it would not exist. The environment, by nature, is multicultural. In the past,

environmental crises tended to be localized and limited. However, in the late twentieth century, environmental crises posed a threat to the world-system (Chew, 1995). The environmental problems of today do not respect boundaries, nations, or localities. In a sense, these problems require global solutions. Before legislation put controls on pollution, air, water, and land, they were treated as available for anyone who wanted to dump wastes. This was not a problem when the population was sparse; factories were small, and few products were produced. However, with changes in society, pollution has become a major problem. Several factors have contributed to the growth of pollution: growth of the human population; concentration of people in very specific areas; the rising affluence of people who spend and waste more; technological change which has increased the availability, quantity, and toxicity of products; and an increased expectation for a higher quality of life.

One important aspect of the environment is its ability to absorb waste with a dilutive capacity. When waste that is discharged into the environment cannot be sufficiently diluted, then pollution occurs; air can no longer dilute waste without affecting air quality, water can no longer absorb waste without its quality being

affected, and the land cannot absorb waste material without producing harmful effects (Buchholz, 1993). There are other factors to consider when looking at global trends. One of these is renewability. Resources are not being given enough time to renew. The abuse and overuse of natural resources is polluting the air, water, and land. This could result in serious changes in climate and air circulation systems (Schmidheiny, 1992).

Universal Principle of Sustainability, an Emerging Concept

A sustainable society would replenish its resources and maintain human and other forms of life over hundreds and perhaps thousands of years. During this period, sustainable living would satisfy the needs of all citizens without depleting or degrading any of the Earth's resources which would jeopardize the prospects of current or future generations (Miller, 1998).

The Purpose of the Project

The purpose of this project is to introduce aspects of awareness, knowledge, and understanding of sustainable living as a part of ESL teaching. Awareness of sustainability will help everyone in the world to have a better comprehension of how natural systems work and to better understand the interdependence of social,

political, economic, and ecological conditions at the local, regional, national, and international levels. This is possibly the greatest educational task ever confronted. Education will give people the necessary skills, tools, and experience necessary to help them understand sustainable development. It will help to create a more globally competitive, skilled workforce. It will also help create more informed and responsible citizens, bridge cultures and continents, and broaden awareness through computer and communication technologies. Educators should reach beyond the walls of the schools to inform the public about sustainable development. Colleges and universities should provide information. However, education about sustainable development should not be confined to traditional school settings. Students should be exposed to issues at the local, state, national, and international levels to provide opportunities for student learning (Sitarz, 1998).

The Content of the Project

This project provides the tools and framework for an ESL classroom experience that informs citizens about sustainable development by emphasizing the connections between various subject areas. Instead of weakening

individual disciplines, education about sustainable development offers an opportunity to strengthen each discipline by demonstrating fundamental relationships. This will help students apply what they learn to their daily lives. Citizens will learn about the power that they have and how they can shape their lives and their communities (Sitarz, 1998).

The Significance of the Project

Adult, ESL, and multicultural education are important aspects of general education. Globalization, environmental awareness, and sustainable development are crucial topics for survival. Taken together, these six topics can constitute a curriculum based on sound educational principles and vital issues that face society.

It is essential for people to become involved in the aspects and problems that face society. Teaching people about globalization, environmental awareness, and sustainable development through ESL and other avenues of education can assist them to address issues with information and knowledge.

Having a good education will help people not only to accept other humans, but also to address the problems of their society, whether they are local or global problems.

Disciplines such as ESL and multicultural education build skills that are useful in solving some of the problems that people face every day. With a well-rounded education, people of every nation can meet their problems directly and address disturbing issues such as pollution, globalization, and environmental destruction.

CHAPTER TWO

REVIEW OF THE LITERATURE

Introduction

People today confront many of the same problems that have faced them for hundreds of years—the basic survival needs of food, shelter, and clothing. However, because of the expansion of human population and the proliferation of technology, people are now faced with much greater dangers: pollution of the environment, extinction of great numbers of plant and animal species, and the potential starvation of mass numbers of people. Taken together, these serious problems greatly influence all life on Earth.

More people are traveling to different parts of the world than ever before; consequently, there is a great demand for a common means of communication. The widespread use of English addresses this demand. In addition, the growing number of immigrants migrating to the United States is mandating an increasing need for English as a second language (ESL) services.

Unfortunately, with an ever-increasing population, there is an increasing number of problems. However,

through ESL, immigrants can be taught about problems that face them, and the ways and means of solving them.

Adult Education

The term adult education brings to mind someone with leisure who might spend his or her time reading or attending a class. This class could feature financial planning, ESL, or discussions of great works of literature. The term could possibly even connote an older man or woman entering a university for the very first time to obtain a degree. The term could connote class work anywhere along the continuum between schooling and recreation (Courtney, 1989). Indeed, adult education is often promoted as something combining formal learning and leisure. Adult educators often seek to convey the idea that study need not be painful, but rather fun (Courtney, 1989).

On the serious side, adult education provides training and education for the world of work. Adult education has a very broad function. It exists to fulfill the needs of individuals, groups, organizations, and societies (Courtney, 1989).

History of Adult Education

Adult education in this country started as early as the founding of the United States itself. Adult education might have even started with the first colonists who learned how to conquer the elements, survive in a New World, or how to grow corn from the Indians (Knowles, 1980).

Benjamin Franklin founded one of the first adult organizations in America in 1727, the Junto; it met on a weekly basis to discuss politics, philosophy, and other topics (Zeleny, 1992). Then, in 1731, Franklin organized another program for educating adults, the first subscription library in America. Members of the library paid dues, which entitled them to borrow books. With the dues, the library purchased new books (Zeleny, 1992).

In 1831, an educator named Josiah Holbrook of Massachusetts founded the American Lyceum. It was the first and one of the most famous national adult education programs (Knowles, 1980). The members of each Lyceum held discussions and attended debates and lectures (Zeleny, 1992).

However, by 1845 the Lyceum had begun to decline in numbers, after having accomplished its purpose, and soon disappeared from the scene. Before it completely faded

from public view, the Lyceum had developed the lecture-discussion, a form of education that would be adopted and used by institutions such as university extensions, public forum movements, and the Chautauqua Institution (Knowles, 1980). An organization of great importance that was founded for adults, the Chautauqua Institution was established in 1874 by John H. Vincent, a clergyman, and Lewis Miller, a businessman, in Chautauqua, New York as a summer school for Sunday school teachers (Zeleny, 1992). However, in time it expanded its curriculum to include diverse subjects such as history, science, literature, and various other subjects (Knowles, 1980).

One aspect of the Chautauqua Institution, the Literary and Scientific Circle, grew into a large nationwide system of home study for adults. This was the beginning of one popular form of adult education, the correspondence course. Because many universities eventually adopted this idea, millions of Americans have received additional education by correspondence (Knowles, 1980).

During the middle 1880s, colleges, universities, and public schools developed extensive adult education programs. These institutions started evening classes for

adults; however, the evening school did not really become a part of the public school program until the enormous wave of immigrants came to the United States, creating the national mandate for "Americanizing" the newcomers (Knowles, 1980).

A very important group in American history that both stimulated and initiated adult education was the class of free, male, skilled workers and their apprentices. Quite often these workers and apprentices were members of a community Lyceum or a mechanics' institute. Many times these organizations had an educational aim in mind, providing useful knowledge to a general population in a way which often explored controversial, social, and economic issues. The educational organizations eventually expanded until they had an almost equal representation of both men and women (Keane & Stubblefield, 1989).

The term "adult education" had been almost nonexistent in this country before 1924. However, in that year, the newly elected president of the Carnegie Corporation of New York, Frederick Koppel, returned from Europe from an inspection of adult education establishments. Under his guidance and leadership, numerous conferences were held with the leaders of differing agencies. This eventually led to the founding of

the American Association for Adult Education in 1926. It had about 3,000 members from whom it collected dues. The Carnegie Corporation also generously supported it. The American Association for Adult Education published a large collection of books, sponsored many studies, and published a quarterly journal of adult education, 1929-1951 (Knowles, 1980).

Early leaders of adult education founded a host of organizations at the turn of the century. A few examples of these are the Association of Land Grant Colleges and Universities, the National University Extension Association, the American Library Association, the American Public Health Association, and the American Home Economics Association (Knowles, 1980).

Adult Education in the Modern Age

The modern era of adult education began right after the start of World War I. Many forces pushed adult education in new directions (Knowles, 1980). New educational institutions were organized on the local, state, and regional levels for adult education. Various groups sponsored programs such as counseling services, training programs, and surveys of community needs. However, few of the local chapters lasted into the 1970s.

The federal government began to support certain areas of adult education with the passage of the Smith-Lever Act in 1914. This act provided direct federal funds to supplement state funds for a cooperative agricultural extension service. It grew to become one of the largest adult education enterprises, and affected an enormous number of people. At one point during the middle of the 20th century, this adult organization had 12,000 county agents and influenced almost seven million farm families (Knowles, 1980).

The federal government also gave assistance for skilled industrial workers in war industries. In 1917, the Smith-Hughes Act was passed. It augmented state and local funds and helped with the expansion of vocational education in the fields of agriculture and mechanical arts. These funds continued during the Depression with the passage of the George-Deen Act. The federal government continued to support adult education through a wide variety of organizations such as the Works Progress Administration, National Youth Administration, Civilian Conservation Corps, Tennessee Valley Authority, and following World War II, the G.I. Bill (Knowles, 1980).

The federal government further supported adult education by passing the Government Employees Training Act

of 1958. Through 83 agency-operated centers and 120 off-campus study centers, almost 750,000 people were reached. The Department of Defense also conducted training programs and reached almost a third of a million military personnel (Knowles, 1980).

The Area Redevelopment Act of 1961 and Manpower Development and Training Act of 1962 were two more examples of the Federal government's attempts to help people through adult education. These two acts provided training for unemployed heads of households who had previous employment experience. They aided people who had become unemployed because of a geographic shift in demand for labor or change in skill requirements that resulted from a technological advancement (Knowles, 1980).

The federal government attempted to remedy the underemployment of millions of adults by establishing, in 1964, the Adult Basic Education program with passage of the Economic Opportunity Act (Knowles, 1980). This sought to offer to "persons 18 years old and older whose inability to read or write the English language constitutes a substantial impairment of their ability to obtain or retain employment" (West, 1995, p. 17). The U.S. Office of Education received funds from the Office of Economic Opportunity until the Adult Education Act of 1966

was passed, at which time the program was relocated within the U.S. Office of Education (Knowles, 1980).

After the census was taken in 1960, it became apparent that something had to be done about the low level of educational achievement in California. People that were functionally illiterate made up about 14% of the population and approximately 1.3 million adults had less than eight years of education (West, 1995). The State Department of Education then developed what is known as the "1964-66 California Plan for Adult Basic Education."

In December, 1969 in Washington, DC, a Galaxy Conference of Adult Education Organizations took place. There were 2,508 representatives from 20 organizations that attended. Of these, eight held their annual meeting in Washington. Out of the conference came a new organization called the Coalition of Adult Education Organization [CAEO] (Knowles, 1980). This organization stated that "the overall purpose of the Coalition is to provide a basis for cooperation and action among the several organizations and associations in promoting adult and continuing education" (Knowles, 1980, p. 24). The CAEO eventually consisted of nineteen member organizations and one associate member.

Another powerful force that has contributed to adult education in the modern era has been private foundations. The Carnegie Corporation of New York was first with its support of the American Association for Adult Education. The Kellogg Foundation contributed greatly by supporting special projects such as The Centers for Continuing Education at Michigan State University, the University of Georgia, the University of Chicago, and The Fund for Adult Education, just to name a few. The Mott Foundation has been another enterprising supporter of the community school system (Knowles, 1980).

Dewey and Adult Education

In the 1920s and 1930s, major developments in adult education took place in the United States. At this same time, the educational ideas of John Dewey were reaching their full development and implementation. His ideas placed the focus of attention directly on the learner in the school and because of this, many of his theories and ideas of teaching and learning appealed to the "founding fathers" of adult education. Many of the leaders in education at this time applauded Dewey's attacks on traditionalism. Believing in the progressive education movement, they put many of Dewey's ideas into effect in schools and colleges (Houle, 1972).

Dewey believed that all education should be related to experience. He further believed that the principal goals of learning were evolving all the time. He felt that one of the principles of learning was the interaction between learners and their environment. Dewey believed that the difference between education and miseducation was that, "...the former enlarges the capacity of the individual or society for richer experiences in the future while the latter arrests, diminishes, or distorts it" (Houle, 1972, p. 11).

Dewey further believed that the act of thinking itself was a means of solving problems. When difficulty arises, the nature of the problem should be determined. After this, all the possible solutions must be investigated, potential outcomes assessed, and the best solution used. Dewey believed that this process should be used to guide education, so it would become a "...quest for competence and enlightenment as an individual or group seeks continuously to solve problems encountered in the effort to reach defined goals" (Houle, 1972, p. 12).

Dewey believed strongly that this approach was applicable not only in the outside world but in the classroom. He believed that it would provide unity for the

enormous range of experiences that make up the arena of adult education.

Adult Education and Minorities

Looking at the current trends of education in America, many believe that the gap between the majority population and minorities is widening at an alarming rate. Growth trends for the future indicate that this will continue. With greater understanding and more information, it is possible to implement more responsive programs and policy decisions aimed at helping and supporting minority groups (Briscoe & Ross, 1989).

Information about minority group enrollment in adult education is scarce. Available data about minority participation is very general due in part to the variation in data collection methods, the inconsistent criteria for membership in minority groups, and the definition of the term "adult education" (Briscoe & Ross, 1989, p. 584). However, some data is available. Estimates of the Hispanic high school noncompletion rate ranges from 38 percent to as high as 88 percent. Unfortunately, African American participation in adult education is underrepresented and participation of African Americans in adult education has declined; consequently, African Americans are falling

further behind their white counterparts when it comes to adult school participation (Briscoe & Ross, 1989).

Adults with very low-income levels, adults who did not complete high school, and unemployed adults make up a sizable proportion of minorities. It can be expected that participation by these groups will continue to be quite low. If adult education is ever to reach more people, it must develop more effective strategies to meet the needs of minority adults (Briscoe & Ross, 1989).

States and Adult Education

The Federal government does not educate people directly. However, the government does fund programs that extend educational opportunities to various categories of adults. Federal monies are funneled to the states and used according to Federal regulations (Feldmesser, Gaff, Helmick, Nielsen, Peterson, & Valley, 1982).

Under the Constitution of the United States, it is not the responsibility of the Federal government to provide education. It is the responsibility of each state. Consequently, each state has built up enormous and complex education codes. Unfortunately, with the exception of a few states, adult education has never been a domain for major state policy. The greatest area of support has come in the form of monies that supplement Federal funds sent

to the states for adult basic education [ABE] (Feldmesser et al., 1982).

It is safe to say that even though there is a relative absence of Federal funds and state policies, adult education is on the upswing. It has been estimated that between 25 and 30 percent of all adults at one time have been involved in some sort of adult learning activity (Feldmesser et al., 1982).

Unfortunately, many problems with adult education remain. For example, participation in adult education remains primarily among the well educated and affluent. Some adult education providers have questionable motives, increasing the likelihood of low quality and possibly even fraudulent offerings. Several programs that were started to attract rank-and-file workers have not been successful. A wave of conservatism in government, exemplified by Proposition 13 in California in 1977, has led to numerous cutbacks in public education, and unfortunately in adult education (Feldmesser et al., 1982).

Adult Basic Education

Under the Federal Adult Education Act, funds are available under the program commonly known as Adult Basic Education, or ABE. Students that are eligible under this category must be 16 years of age or older, may not be

enrolled in a school or college, and may not have graduated from high school or may "lack sufficient mastery of basic educational skills to enable them to function effectively in society" (Feldmesser et al., 1982, p. 184). ABE also provides for acquisition of basic skills and helps people complete high school. The third purpose of the Adult Education Act is to extend opportunities for "training that will enable (people) to become more employable, productive, and responsible citizens" (Feldmesser et al., 1982, p. 184).

Through Adult Basic Education, the Secretary of Education makes grants to all 50 states and six territories for certain programs that meet the purposes of the Adult Education Act. A base amount of \$150,000 is allocated to each state, plus another amount based on a formula related to the number of persons in the state that are 16 years of age and over and not in school. The Federal expenditure may not exceed 90 percent of the total expenditure in each state. From these funds, the states and territories then make grants to the local school districts, and to any private or public organization, to design and implement the programs (Feldmesser et al., 1982). Even though state education agencies prepare plans and are ultimately responsible for all ABE programs, the

primary initiative for starting and conducting these programs is in the hands of the local districts' adult schools (Feldmesser et al., 1982).

Frequently, adult programs cooperate with local organizations in a variety of co-sponsorship arrangements such as job-training programs, unions, private employers, housing developments, churches, and other different community organizations. Amendments that have been made to the original Adult Education Act of 1966 now provide for special educational programs for Indochinese refugees, adult Indians, and adult immigrants (Feldmesser et al., 1982).

Libraries and Adult Education

Libraries and adult education have had connections for many centuries. In the Middle Ages in Europe, the monks of the Catholic Church studied in libraries that also contained systems for book production. After the reformation, many cities relied on libraries to implement educational programs and to impart knowledge. In Boston, New Haven, and various parishes in the eighteenth century, libraries served as prime resources of learning for adult independent learners (Allred, 1989).

Libraries were pushed as an educational force, not so much by popular demand, but by a few philanthropists who

saw the opportunity to influence the public. They did this by carefully choosing the books that were to be placed within the libraries. The influence that these people had on adult education was limited only by the conservatism of the books that they chose "...and by the librarian's preoccupation with the mechanics of collection and conservation" (Allred, 1989, p. 303).

The American Library Association's Commission on Libraries and Adult Education reinforced the role of the reader's advisor in public libraries. This meant a closer involvement between the library user and the librarian. In the 1930s, help for the library user became a role assumed by the general library service. This approach continued until the 1960s and 1970s. Then a new concern for people was awakened and librarians sought to give more service, to develop better communication information, and to provide for adult independent learners (Allred, 1989). At present, many libraries house adult basic literacy training programs.

Adult Education and the Future

As a new century dawns, adult educators must face a new era that will bring many changes, including the culmination of technological innovations that have been made in the past 50 years as well as the scientific

theories and technological advancements that will present themselves in the coming years (Courtney, 1989).

Another area with which adult educators need to concern themselves is population. The baby boomers of the 1950s and 1960s are now reaching maturity. Never before has a society had to take into account such an advanced, mature population with great influence and power. Adult educators can only speculate on the impact this population will have on their programs in the years to come (Mocker & Spear, 1989).

Adult education has entered an era of scientific theories and accelerating technological advancements. It is important to realize that the decisions made concerning adult education are also decisions about people's lives. They have far-reaching ramifications that affect thousands of people who deserve a voice in decisions that influence their lives (Courtney, 1989).

The future of adult education is in the hands of adult educators. They cannot simply wait for things to happen or for events to take place. Instead, adult educators must take action by embracing ideas and visions of a better future, and working toward more promising and specific goals (Mocker & Spear, 1989).

Conclusion

Adult education has a broad, liberal function. It provides training and education to many people. It provides useful knowledge to a general population by fulfilling the needs of the individual, group, organization, or society. If adult education is to reach more people, it must develop strategies that are more effective and address the many technological advances that will present themselves in the years to come.

Globalization

What is Globalization?

In the decades ahead, as in the past, many new concepts and terms will enter the English language. Many of these will reflect the direction that groups, organizations, large institutions, religions, societies, and humanity itself will take. Globalization is a key term that describes the 1990s and the transition of human societies into even closer social and economic contact (Waters, 1995).

Globalization can be defined as "a social process in which the constraints of geography on social and cultural arrangements recede and in which people become increasingly aware that they are receding" (Waters, 1995,

p. 3). Globalization may also be understood as the direct consequence of European expansion across the planet because of settlement, colonization, and cultural expansion. Intertwined within the structure of European globalization is capitalism, a large part of globalization. Consequently, globalization can be said to be highly Europeanized. The de-territorialization of societies and political arrangements is moving rapidly (Waters, 1995).

The processes and the actions that make up globalization have been proceeding for many centuries; however, the main thrust of globalization has come about primarily in recent times. In fact, it can be said that globalization actually refers to recent developments (Robertson, 1992).

Globalization has specific characteristics. It may be regarded simply as a phase in the history of capital that has brought together many different societies in one system. One aspect is the sheer number of globalizing firms. Over the last 25 years, the number of global companies has more than tripled. The centralizing tendencies of giant global corporations, located in special cities that have the social and economic infrastructure to support global control, are joined

together by a dispersal of economic activities. In a certain aspect, "...globalization comprises a particular constellation of economic concentration and the denationalization of economic activities" (Mittelman, 1996, p. 231).

Another characteristic of the globalization process is that the production of goods can be transferred overseas to reduce costs. The relocation of companies reduces barriers to the free movement of ideas and people. In order to combat the forces of nationalism and localism, globalization is touted as an idea that promotes neoliberalism (Mittelman, 1996).

Food, Technology, and Globalization

During the 20th century in the United States, there were three—and possibly four—technological revolutions in agriculture. The first started in the 1920s when tractors and soybeans were introduced. The next occurred in the 1940s when pesticides, animal antibiotics, chemical fertilizers, hybrid seeds, and power and water supplied by the government entered the scene. This later came to be known as the Green Revolution. Farmers in developed countries later adopted Green Revolution technologies that began in the United States. A third agricultural revolution took place during the 1960s and the 1970s, when

the Green Revolution spread to the Third World. Finally, a new and possibly fourth revolution, which is associated with biological and genetic technologies, is just now beginning (Schaeffer, 1997).

In the 1920s, the automobile industry introduced cheap tractors into the American market and thus helped to transform U.S. agriculture into one of both glut and crisis. Tractors eliminated the need for horses and oats, which the horses ate. Farmers did not have to grow oats, but could now plant corn or soybeans instead. Soybeans were used in rotation with corn to help replenish the soil. They soon took over the fields that had been used specifically for oats. Soybeans were a valuable commodity that could be used in industry and food processing, and fed to cows (Schaeffer, 1997).

With the new developments of soybeans and tractors, farmers could enormously increase food supplies. In a certain sense, the widespread adoption of tractors and soybeans helped to bring about "...the discovery and development of a new continent, of a new North America, in the 20th century" (Schaeffer, 1997).

However, there were grave problems. Tractor-based agriculture allowed farmers to produce enormous amounts of food; unfortunately, this led to gluts and lower prices.

The cost of buying and maintaining this new machinery increased costs and put a financial strain on farmers. During the Great Depression, the demand for food weakened and agricultural prices fell drastically. Many farmers could not earn enough money to survive. They were unable to pay off loans. Unfortunately, a great many lost their farms. It is estimated that perhaps 1.5 million farmers lost their farms during the Great Depression. However, during World War II the demand for food greatly increased in response to a global shortage of food supplies. Prices rose to their highest level in the twentieth century. Because of increased food prices, "...net farm income quadrupled..." and farmers in the United States once again prospered (Schaeffer, 1997).

In the 1920s and 1930s, the tractor and other technological machinery gave agriculture a tremendous boost. However, in the postwar period chemical fertilizers, hybrid seeds, pesticides, and antibiotics allowed farmers to improve their crop yields and increase food supplies. The addition of government irrigation projects, the extension of electrical power to rural communities, the tractor, and the development of technological advances in farm machinery have all brought

about what is collectively known as the Green Revolution (Schaeffer, 1997).

Because of the Green Revolution, farmers in the United States have been able to drastically increase their crop yields every year since 1948. The adoption of new technologies around the world created a third agricultural revolution. In the 1950s and the 1960s, farmers in Europe began to adopt the new agrochemical technologies of the Green Revolution. Because of these new technologies, European farmers by 1972 produced enough food to feed Europe without having to import food from the United States. By 1985, Europe was able to export approximately one-third of the food it produced (Schaeffer, 1997).

The technologies of the Green Revolution did not reach Third World countries until the 1960s and unfortunately took hold much more slowly. The new technologies did not actually have an impact until the 1980s, when Green Revolution technologies aided populous countries such as Indonesia, Pakistan, India, and China (Schaeffer, 1997).

Between 1950 and the 1970s, the United States government dealt with the problems of huge food supplies by introducing two policies. First, it developed a program that would increase the demand all over the world for food

that was grown in the United States. Second, the United States government developed programs that would curb the food supply in the United States. It was hoping that by reducing the supply and by increasing the demand for food, the farm prices would not fall too quickly. This would prevent a rapid displacement of farmers.

The federal government passed Public Law 489 in 1954. This law was also known as the Agricultural Trade Development and Assistance Act. It was designed to, "develop and expand markets for U.S. agricultural commodities, to use the abundant agricultural productivity of the United States to combat hunger...and to encourage economic development in the developing countries..." (Schaeffer, 1997, p. 152).

The United States government has provided food to foreign countries under Title I of this act by selling food to foreign governments on favorable or "concessional" terms. Then the foreign governments sell the U.S. food in their country and pay in their own currency. The government then spent the money it earned on dams or roads or supplies for military bases.

Under Title II of this act, the Federal government gave food free of charge to selected countries. Since 1955, the government has given away about 30 percent of

the food exported under this act and sold about 70 percent on concessional terms (Schaeffer, 1997).

The great abundance of food in the United States has given it a definite global advantage. Food has been used by the United States as "...an important mechanism in the pursuit of American global objectives." American food aid has been used as bargaining power in peace negotiations (Middle East Accords), as support for an ally (Israel), and as one favor traded for another favor. Food has been used to build commercial markets for U.S. food in foreign countries (wheat in Taiwan) and to protect U.S. manufacturing (copper in Chile). In these and other cases, food was used by the United States on a global basis to promote the foreign policy agenda of the U.S. government (Schaeffer, 1997).

In the 1970s, the government almost completely abolished its food aid program. This forced Third World countries to purchase food at rising prices that had been previously sold or given to them on concession. In 1972, the government cut back considerably on food aid so this food could enter the commercial markets. As food aid disappeared, Third World countries were forced to buy in global markets. These Third World countries were forced to borrow money from commercial banks in First World

countries to pay for food imports. Countries such as Mexico, Argentina, Poland, and Brazil used borrowed money from commercial banks to purchase food. This, in turn, contributed to rising indebtedness in the 1970s (Schaeffer, 1997).

United States Labor and Globalization

Since the last half of the 19th century, the U.S. labor movement has been involved in international labor affairs. These foreign labor affairs have been controlled primarily by the AFL-CIO (American Federation of Labor-Congress of Industrial Organizations). Other organizations such as the United Auto Workers, the International Ladies' Garment Workers' Union, and the United Steelworkers of America, have supported international affairs experts on their payroll (Herod, 1997).

The U.S. labor movement's international actions have been determined to a large degree by the economic position of the United States in relation to other countries. The international activities of United States labor and capital have been influenced and conditioned by financial self-interest and a strong belief that it was labor's mission to bring U.S.-style democracy and capitalism to those parts of the world that were politically and

economically "backward," such as Latin America. U.S. capitalists and workers embraced this belief as a part of the ideology of American Manifest Destiny. Samuel Gompers, who led the AFL for almost the first half-century of its existence, expressed this idealism in his statement, "The nation which dominates the markets of the world will surely control its destiny. To make of the United States a vast workshop [for the world] is our manifest destiny, and our duty..." (Herod, 1997, p. 171).

Often the goals of U.S. labor, the government, and business have been mutually reinforcing. Consequently, labor in the United States has had a crucial role in shaping and enforcing U.S. foreign policy. For example, representatives from the AFL and CIO after World War II were deeply involved in reorganizing the trade union movements in Germany, Italy, and Japan. They were involved in implementing the Marshall Plan, which helped to reshape the economic geography of Europe. AFL-CIO officials have been active in supporting trade unions in Asia, Africa, the Caribbean, and Latin America. Labor also works to help weak local unions become stronger and provide services to its members. However, many times labor's intervention has had the purpose of opposing militant labor activists and

the threat of Communist control over local unions (Herod, 1997).

Drugs and Globalization

Taking psychoactive substances was once known as "the American disease." However, the market for illegal drugs has expanded enormously around the world with different kinds of drugs becoming more available in more places than ever before. Drug trade, which used to be a very small area of criminal activity, has now developed into a major global enterprise. The illicit activities of drug trade will not only continue to expand in the future, but will also present serious consequences for many countries and communities all over the planet (Stares, 1996).

The Organization for Economic Cooperation and Development has estimated that as much as \$122 billion a year is spent on heroin, cocaine, and cannabis in the United States and Europe. Very few businesses, legal or illegal, can compare to the lucrative drug trade. The total sale of all illicit psychoactive drugs sold globally has been estimated between \$180 billion and more than \$300 billion annually (Stares, 1996).

In its expansion, the drug trade has been rooted in certain geographic regions. For example, the cultivation of the opium poppy and the processing of morphine and

heroin are concentrated in Laos, Thailand, and Myanmar (formerly Burma), Afghanistan, Pakistan, and Iran. The cultivation of coca is primarily carried out in Peru, Bolivia, and Colombia. However, 70% of the subsequent processing of coca into cocaine occurs primarily in Colombia. Major hashish producers are Afghanistan, Pakistan, Lebanon, and Morocco while the leading marijuana exporters are Mexico, Jamaica, Colombia, and Thailand. Since the 1970s and the 1980s, many new drug trafficking groups have emerged and expanded their operations. These include the Turkish heroin syndicates, the Colombian cocaine cartels, and recently, Nigerian organizations (Stares, 1996).

Throughout the world, great technological advances have made travel across international borders fast and efficient. Subsequently, as these natural barriers have fallen, economic and political barriers have also fallen in order to stay competitive and sustain growth. The greatest growth has occurred in the European Union with similar growth also taking place in other regions of the world. As a result of this advancement, the world is becoming increasingly "borderless" (Stares, 1996, p. 5).

Because of the global diffusion of technical expertise, and the internationalization of manufacturing,

it is now possible to cultivate and refine drugs in extremely remote places and still be able to reach distant markets. Just as free market entrepreneurs have been able to take advantage of the free market economy, criminal organizations have also been able to take advantage of this globalization. Drug organizations not only have been able to distribute illicit drugs to the long-established markets of the United States and Europe; they now find that new parts of the world have opened up to the drug trade. This was because of the expansion in trade, transportation networks, and tourism (Stares, 1996).

Because the global finance system has rapidly expanded and provided a wide array of services and instruments, it has provided drug traffickers with more opportunities to launder money and invest in other activities—both legal and illegal. This is especially true in the poor but highly regulated post-communist and developing nations. The growth of global telecommunication and global awareness about drug problems has contributed to the propagation of drugs all over the planet (Stares, 1996).

The global effects of the drug trade show no signs of lessening. Economic incentives to cultivate and manufacture drugs exert a powerful influence in key source

areas of the world. Drug-trafficking organizations continue to expand the global habit for illegal drugs spurred on by immense profits from the drug trade. Some drug organizations have already created "sanctuaries" in countries where state authority is weak or almost nonexistent and thus vulnerable to intimidation and corruption. The creation of these sanctuaries can be expected to increase because of the breakdown of law and order in various parts of the world. It is believed that terrorist groups in such places as Northern Ireland, Afghanistan, and Turkey have purchased weaponry and supplies with money gained from the drug trade (Stares, 1996).

The creation of free trade zones and the general expansion of cheap and efficient transportation systems on a global basis are conducive to the growth and expansion of illegal drugs. This is particularly true in the post-communist world where there has been a lessening of border surveillance and weakened law enforcement, which provides greater opportunities for the smuggling and local distribution of drugs. There is no reason to believe that the global drug trade will decrease. Desperate people are willing to risk legal sanctions to transport and distribute drugs, especially in countries with

increasingly overcrowded cities contained within the developing world community (Stares, 1996).

Education and Globalization

As globalization increases throughout the planet, it affects all segments of society, including education. For example, the bus in which children ride to school may have been made in the United States or another country, and it probably contains parts that were manufactured all over the world. As more and more educators understand globalization, they adjust their curricula respectively. In the past, education featured international subjects as "World History" or "Economics." However, because globalization is now so prevalent, it is important that future students receive an education that contains a global perspective (Baker & Mendelsohn, 1997).

A global curriculum would help students develop an appreciation for others. It would also help students develop a sense of where they stand on important issues. It would encourage the formulation of solutions to problems and help students see that extremely complex problems may have more than a single solution or possibly no solution at all. A global curriculum would not ignore basic skills and fundamental information, yet at the same time it would provide students with a rewarding and

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supportive context in which to apply skills and information. Students would be prepared to enter a global world. It would prepare them for "leadership, membership and follower-ship" in their state, country, and world and help them to develop a deep appreciation of events while teaching students how to formulate intelligent, informed opinions (Baker & Mendelsohn, 1997, p. 64).

Students develop as globalists through a variety of ways such as group discussions, studying languages and cultures, research projects, and field trips. In subjects such as math, science, and the humanities, a global perspective can be added (Baker & Mendelsohn, 1997). Two methodologies that can be incorporated into global curriculum are case studies and simulations. Case studies are effective because they are "real world" scenarios that bring students face to face with complex issues and problems. They have long been used in undergraduate and graduate courses to help teach law, business, medicine, and international relations. They are valuable because they address relevant questions and explain issues and events. This is an interesting, stimulating, and challenging process that forces students to "think on their feet," and to draw upon their interpretation about why things actually happen (Baker & Mendelsohn, 1997).

Simulations are another useful approach to study global issues. These might include such complex and sensitive tasks as writing a peace treaty between ethnic rivals, or role-playing a trade negotiation between neighbors. Both case studies and simulations use basic skills such as speaking, reading, writing, researching and formulating questions while incorporating thinking and problem solving (Baker & Mendelsohn, 1997).

Progressive education combined with global education lead to the conclusion, "schools should promote the development of feeling, caring, multi-dimensional, curious learners who are interested in pursuing depth over superficiality" (Baker & Mendelsohn, 1997, p. 67).

Globalization and the Environment

Throughout history, humans have been faced with crises. They have usually been able to formulate or extrapolate solutions. However, because of the rapid expansion of the human race and the effects of globalization, humans are now facing an era of new problems brought about by abuse of the environment. One of these abuses is the deforestation of tropical rainforests (Botkin, Caswell, Estes, & Orio, 1988).

A tropical rainforest can contain as many as 30 million plants and animals. The rainforests contain

two-thirds of the world's plant species, which include many plants with medicinal value. Tropical rainforests furnish approximately 22% of the planet's oxygen.

Rainforest plant life absorbs carbon dioxide and gives off oxygen through photosynthesis. Deforestation decreases the amount of available oxygen. The destruction of the forests also alters the water cycle, which, in turn, could cause droughts, flooding, and soil erosion in areas that heretofore did not have these occurrences.

Unfortunately, forests are disappearing at accelerating rates. One such example of the extinction of the rainforests is the Atlantic Forest region of Brazil, which once extended from South America's easternmost point to the Argentine border. It has been estimated that the total growth of the rainforest cover in the State of Sao Paulo, Brazil, was 81 percent in 1500. Now it has been estimated to be two percent. This unfortunately contributes to the reduction of the oxygen supply of the planet (Lovejoy, 1988).

Wood is a product that, throughout history, has been extracted from forests as a valuable commodity. The long history of forest use goes back as far as the ancient civilizations. Unfortunately, much forest use is exploitative. Many times the removal of wood has resulted

in ecological degradation, and in some cases, the total collapse of a civilization (Chew, 1995).

The endless destruction of forests for fuel and various other reasons constantly shifts from one region of the planet to another (after the nearby forests have been exhausted) depending on availability and social resistance. Regrettably, many forests have been sacrificed to serve human greed (Chew, 1995).

The greatest threat to the environment is the depletion of fossil fuel supplies. The byproducts of burning fossil fuels are destructive. However, burning natural gas produces less air pollution than burning coal or oil. When natural gas is transported across national borders, it can be substituted for more polluting alternatives. However, it should be noted that the benefits only accrue to the importing country. With fresh-cut trees and fossil fuels, the importer gains the economic benefit of using the commodity without suffering many environmental consequences (French, 1993).

In the past, environmental crises tended to be localized and limited. However, in the late twentieth century, environmental crises posed a threat to the world system (Chew, 1995).

In this fragmented world, there are signs of political support for socially responsible development. Some governments are recognizing the need for more environmentally sustainable policies. These governments have also been pressing for policies that will benefit poor, indigenous communities. Several governments have recognized the need to end the erosion of state responsibility in social and economic affairs. These governments now recognize they have a role to play in protecting workers, the disadvantaged, and the environment (United Nations Research Institute for Social Development, 1995).

Conclusion

Globalization is a term that describes key aspects of the transition of human society into transnational interconnection. Many areas of society have been affected by globalization such as agriculture, labor, drug trade, education, the environment, and human population. The challenge in the future will be to maintain growth in all areas of society while at the same time maintaining balance in those areas of society such as business or education that are affected by globalization.

Environmental Awareness

The Physical Environment

The physical environment is indeed the most fundamental aspect of human existence on the planet. One of the most important things that the environment provides is a habitat in which plants and animals survive. If this habitat is seriously affected, then plant or animal life will be affected. The environment also provides resources to produce goods and services for people (Buchholz, 1993).

Early Humans and Environmentalism

There were a number of periods in early history when human culture significantly impacted the environment. The first group of humans that had impact were the hunter-gatherers. They were a successful group that lived about 10,000 years ago. They occupied the full range of habitats following the great ice ages, and were able to adapt to rapidly changing ecologies. Hunter-gatherers were found from very high northern latitudes to Tierra del Fuego and from the high alpine forests to the lowland tropics (Simmons, 1993).

There have been many theories about early humans and their influence on the environment. Schule put forward the "Pleistocene overkill" hypothesis (Simmons, 1993). This states that where there have been extinctions of animals,

humans could have played a large part, such as in North America, where two-thirds of the large mammal fauna disappeared from the fossil record. This involved elephants, giant armadillos, deer, antelope, large rodents, and carnivores. If the conventional time period of humans in the New World via the Bering Strait is accepted, then these animal extinctions coincided with the course of a southward expansion of human hunters. Climatic change is an explanation in itself for some paleontologists; however, the human linkage is given some credibility by the occurrences of events in other areas (Simmons, 1993).

The next group of humans that had an impact on the environment was the riverine agricultural group, dated from 5,000 years ago until about the middle of the first millennium BC. Their major technological achievement and environmental effect was storing and controlling large quantities of water so the growing season of cereals could be extended. In Egypt, ditches drained water off the alluvial plain and led it into storage ponds, where it was then released on to fields. Trees and bushes were cut down, and the uneven surface of the ground was broken up by hoes and ploughed with ox teams (Simmons, 1993).

The next influence was that of agricultural empires. Techniques of nutrient replenishment were used, such as manuring from domesticated animals, fallowing, green manures, and nitrogen-fixing crops. It was essential to preserve the physical structure of the soil and the downward movement of the soil by gravity and water flow. Soil that has been lost from fields has three negative effects: it accretes in the valleys and changes their nutrient profiles; it is transported by rivers, which adds to the flood potential; and it is added to deltas and lagoons, which increases the potential for malaria-carrying mosquitoes. The rain-fed system also has effects on the environment. It extends the area of crop land at the expense of another set of ecological systems, which usually include the forest because it is often the closest and most obvious land bank (Simmons, 1993).

The next great area of influence on the environment was North Atlantic industrialism. In AD 1800, the world population was about 957 million, of which about two percent lived in cities. By 1985, the population had grown to 4,853 million; almost half of which lived in cities. No growth of this magnitude could have occurred without ecological changes. This meant that these industrial nations now had the power to change their immediate

surroundings and reach out to peripheral zones with speed and confidence. There was a great surge in the discovery, development, transport, and utilization of hydrocarbon fuels such as coal, oil, and natural gas. In urban areas, especially in developing countries with a high demand for charcoal, the impact upon the environment was devastating. Around the towns, great arcs of deforestation could be seen (Simmons, 1993).

The present period brings its own technological advances and problems. The steady increase of power output is exemplified by such technological advances as the steam engine, the steam turbine, railway diesels, the combustion engine, the engine of a Boeing 747, and the Saturn C5 rocket, all of which result in faster rates of accumulated energy use (Simmons, 1993).

During the 18th and 19th centuries, two great revolutions occurred that completely redirected the political, social, and economic destiny of the Western World. The French Revolution marked the beginning of widespread democratization by redistributing the means of production and reallocating natural and human resources. Next, the Industrial Revolution combined the technological advancements of the era with natural science and produced the character that it retains today. Later, with the

combination of technology and democracy, wealth began to increase among the population (Moncrief, 1973).

Environmentalism in the United States

In 1864, an American from Vermont named George Perkins Marsh published *Man and Nature; or, Physical Geography as Modified by Human Action*. Marsh had a wide variety of careers including businessman, politician, commissioner of Vermont fisheries and railways, and U.S. minister to Turkey and Italy. He helped design the Washington Monument and the capitol building of Vermont (Meyer, 1996).

Human impact on the planet had been minimal up to this point; however, Marsh's book broke new ground. He wrote about the environment and that the planet had been "incidentally touched upon by many geographers, and treated with much fullness of detail in regard to certain limited fields of human effort" (Meyer, 1996, p. 4). Marsh also stated "it has not, as a whole, so far as I know, been made a matter of special observation, or of critical research by a scientific observer" (Meyer, 1996, p. 4). Marsh's book was the first general survey of the effects that human activity had on the planet. It was the first of its kind to show that the effects of humans were cause for concern (Meyer, 1996, p. 4).

Environmental policy in the United States had its beginnings with Theodore and Franklin Roosevelt and has been historically related to land tenure and water rights practices. The Federal government intervened as these resources became scarce and threatened. The United States became an innovator in the development of national parks and river basin projects (Marcus, 1986).

The modern-day environmental movement had its beginnings in the 1960s when the United States was concerned about civil rights, consumer protection, safety and health, and other social issues. Americans were concerned with the desire to improve the quality of life and protect the health of humans (Buchholz, 1993).

In 1962, a book called *Silent Spring* by Rachel Carson initiated a widespread environmental movement. In this book, she pointed out increasing and unrestricted pesticide use and brought together the findings of ecology, toxicology, and epidemiology in one source that could be understood by both politicians and the general public. She also discussed the problem of the invasion of toxins in the human body without an individual's permission or awareness. She combined all of this in a book that contained scientific, moral, and political

arguments with the need for political action (Buchholz, 1993).

As a result of Carson's book and public concern about the environment, people began to be educated about the environment. Many people now began to see that solutions to environmental problems needed to be undertaken on a global scale, with greater decentralization (Buchholz, 1993).

Several events over the past few years have stimulated an already growing concern for the environment. Considerable attention was heightened when the hole in the ozone layer over the Antarctic was discovered and the link between the destruction of the ozone layer and chlorofluorocarbons was established (Buchholz, 1993).

In 1990, Earth Day was celebrated for the twentieth time. This brought in a new awareness of environmental problems and a sense of urgency that united people all over the world. In the United States, public opinion polls revealed a steady growth of public concern for environmental quality. The American public was keenly aware of the seriousness of environmental problems and wanted the government to become more actively involved in the solution to these problems (Buchholz, 1993).

Many people feel tougher laws are needed and more money should be spent on solving environmental problems. More people than ever before are willing to pay for environmental cleanup, even if it means that economic growth must be sacrificed to protect and save the environment (Buchholz, 1993).

Some of the positive results of the environmental movement are that it has greatly increased the general awareness of environmental problems and institutionalized concerns in business and government through legislation and regulation. Many new laws in the 1960s and 1970s were passed at the Federal, state, and local levels to address environmental problems and establish new agencies. One such agency was the Environmental Protection Agency (EPA). Its principle focus was to make sure the business community was in compliance with rules and regulations, and to protect the environment from any harm and degradation from human activity (Buchholz, 1993).

There has been a great effort to strengthen the "clout" of the EPA. In 1984, Congress added teeth—enhanced enforcement—to the Resource Conservation and Recovery Act. There are also proposals to expand the EPA's authority so it can address problems the existing statutes do not adequately address (John, 1993).

However, the most radical proposals for environmental change come from individuals and groups that cluster around the ideas of deep ecology. The beginnings of the deep ecology movement can be traced back to the organizers of Earth Day, and still further, back to the beliefs and teachings of people such as Aldo Leopold and John Muir, who felt that the only true answer to environmental problems was a change in values. Deep ecologists feel that environmental values are more important than economic values and call for stronger environmental enforcement and "...a rejection of the traditional vision of the United States as a land that provides opportunity through economic growth" (John, 1993, p. 31). The majority of deep ecologists believe in radical decentralization of economic activity. Many environmentalists are now seeking ways to make their communities self-sufficient (John, 1993).

In addition to the EPA, other organizations try to protect the environment. One of these is the Bureau of Land Management funded by the Policy and Management Act of 1976. This act focused on areas of critical environmental concern to the public lands administered by the Secretary of the Interior (Bureau of Land Management, 1980).

The objectives of this agency are to identify, designate, and to manage public lands where special

attention is required. This policy is designed to protect historic, cultural, and scenic values; fish and wildlife resources and other natural systems and processes; and human life and property from natural hazards (Bureau of Land Management, 1980).

The National Environmental Policy Act was passed in 1970. It has been the foundation on which other laws and regulations have been based. The National Environmental Policy Act has been the most important and significant of all environmental legislation acts because it commits the nation to maintaining the health and well being of the country's entire ecosystem (Marcus, 1986).

Agenda 21

In 1992, in Rio de Janeiro, Brazil, the United Nations Conference on Environment and Development (UNCED) met and adopted Agenda 21, which is a work program for the twenty-first century based on principles defined in the Declaration on Environment and Development. It was adopted by 179 states. UNCED affirmed the need to eliminate global poverty through ecologically benign economic development (Pepper, 1996).

The Rio Declaration stated that the only way to have environmental protection and maintain economic growth is to link the two together. This will happen only when

nations establish a new and global partnership that involves people, key sectors of society, and governments. These nations must work to build international agreements that protect the integrity of the environment world-wide (Pepper, 1996).

Agenda 21 is intended to establish an international program of action to achieve sustainable development in the twenty-first century. It makes recommendations to integrate environment and development concerns. It contains a review of issues that pertain to sustainable development and the objectives, activities, and means of implementation (Grubb, Koch, Munson, Sullivan, & Thomson, 1993).

Agenda 21 is not a legal agreement. Governments are not required to follow recommendations line-by-line and paragraph-by-paragraph. Compared to other legal documents from international conventions, Agenda 21 contains more information about problems, aims, approaches, and desirable policies. It is perhaps best seen as a collection of negotiated wisdom that contains relevant principles and an outline of the many different paths toward solutions. It contains over 500 pages and 40 chapters, and addresses major areas of political action (Grubb et al., 1993).

The preamble to Agenda 21 sets the tone, feeling, and expectations of the document and serves to outline fundamental perceptions and goals of the preamble:

Humanity stands at a defining moment in history. We are confronted with a perpetuation of disparities between and within nations, a worsening of poverty, hunger, ill health and illiteracy, and the continuing deterioration of the ecosystems on which we depend for our well-being. However, integration of environment and development concerns and greater attention to them will lead to the fulfillment of basic needs, improved living standards for all, better protected and managed ecosystems and a safer, more prosperous future. No nation can achieve this on its own; but together we can—in a global partnership for sustainable development. (Grubb et al., 1993, p. 101)

Population and the Environment

Since the 1960s, the single factor that has been listed as the greatest cause of ecological destruction has been human population. The population of the planet today is approximately six billion. This represents a one-thousand-fold increase in the past ten thousand years. In the last forty years alone, three billion people have been added and another one billion will be added in the next eleven years. This will make it the fastest increase in human history (Hempel, 1996).

The principal threats to the environment are deforestation, urban smog and congestion, overconsumption of natural resources, shrinking land availability, and

habitat destruction. Because of the present population growth, we are capable of adding more people per decade than all the people that inhabited the earth for the first four hundred thousand years (Hempel, 1996).

The New Environmentalism

The worldwide environmental movement is sometimes called the new environmentalism. This is the view that environmental problems are global and interrelated, not just regional or local problems. Environmental problems of today do not respect boundaries, nations, or localities. In a sense, these problems require global solutions (Buchholz, 1993).

The new environmentalism has affected both socialist and capitalist systems. It has transcended the old ideas of environmentalism and has become a new ideology in itself. People of different political beliefs and ideologies have united behind environmental causes because all countries, no matter what ideology they have, have environmental problems. The new environmentalism calls for new paradigms and intellectual constructs that are more comprehensive and less reductionist in nature. It challenges the old ways of thinking and demands focus on a more comprehensive and inclusive view of reality (Buchholz, 1993).

Culture as an Environmental Problem

One of the causes that has been expounded for environmental problems is the capitalist culture, which is based on certain ethical values in regard to economics and the environment. In this culture, economic values are dominant and provide the basis for decisions concerning the use and abuse of the environment. Unfortunately, the dominant U.S. culture is not based on environmental ethics and principles. Economics guides decisions and in many ways forces the view that technology and resources are infinite (Buchholz, 1993).

According to Kenneth Watt, there are basically five beliefs at the heart of capitalist culture. These beliefs influence how people think and act. The first one is the fixation on money. Many people believe that money is the measure of all things and if something is in its natural state and has no monetary value, then it is worthless. The forests of the world have no monetary value unless their lumber can be used for construction. The second is the belief in omnipotent technology, the belief that technology can solve all problems. Because of this belief, new technology is developed as soon as possible without thoroughly researching the effects on the environment. The third is the belief in management through fragmentation,

in which large tasks are split into many small tasks that can be controlled. This results in a focus on manageable tasks that do not require holistic thinking. The fourth idea is the belief in force, resulting in projects that overwhelm nature and make it serve human interests, rather than cooperating with nature. The fifth idea is that growth is good. In U.S. society, economic growth is the bottom line and the measure of success is the GNP (Gross National Product). People do not bother to think about the destruction that this economic growth may have on the environment but rather promote an economic lifestyle based on the accumulation of more material goods (Buchholz, 1993).

The economic system that exists in the U.S. must be transformed into one that serves environmental values, so sustainable growth and living become a reality. Otherwise, environmental conditions will become more severe and further economic growth will be impossible. It will be difficult to change society and teach people to think in new ways. However, change must come about in response to global environmental pressures that can no longer be ignored (Buchholz, 1993).

For thousands of years indigenous peoples knew that people must care for their environment if they were to

survive. Humans and the environment are inexplicably intertwined on the same planet. A famous American Indian chief named Seattle summed this up when he said:

The Earth does not belong to man, man belongs to the Earth. All things are connected. Whatever befalls the Earth befalls the sons of the Earth. Man did not weave the web of life; he is merely a strand in it. Whatever he does to the web, he does to himself. (Lyle & Sterling, 1991, p. 5)

Summary

The most important single aspect of human existence on planet Earth is the environment. When the human population was sparse, population was not a problem. Now that the population is large, pollution has become a problem fueled by industrialization. There are many threats to the environment of the planet, such as deforestation, urban smog and congestion, overconsumption of natural resources, shrinking land availability, and habitat destruction. Legislation and regulation are two solutions to some of the environmental problems. However, the economic system must be transformed into one that serves environmental values, so that sustainable growth and environmentally friendly living become a reality.

Sustainable Development

Approximately ten years after the Stockholm Conference in 1972, it became clear that environmental

destruction was now proceeding at a pace and scale that had never been experienced before. It was apparent that environmental destruction was undermining prospects for continuous economic development and could possibly threaten the very existence of the entire human race (MacNeill, 1990).

There are other factors to consider when looking at global trends, such as stress on renewable resources and the abuse and overuse of natural resources. This could result in serious changes in climate and air circulation systems. Many agricultural drylands are becoming deserts, forests are being transformed into very poor pastures, freshwater wetlands are becoming salty, and dead soils and degraded ecosystems are losing their biological diversity, which results in an irreversible form of destruction. Economic and environmental decline have occurred all over the world, with the unfortunate result that over one billion people are unable to meet their basic needs (Schmidheiny, 1992).

During the 1970s, interest in the environment and how to protect it grew at an incredible rate. A related idea was about growth and whether it had any limits. A study was started by a group called The Club of Rome. This was a group of very prestigious businessmen, scientists, and

national leaders. The Club of Rome commissioned a work group at The Massachusetts Institute of Technology (MIT). Its goal was to use a new computer model to calculate how long it would take before would run out of critical resources. Their findings were published in *The Limits to Growth*, which was eventually translated into 30 languages. Their results sparked a great deal of interest and controversy. Some scientists did not agree with the results of the new computer model and challenged it, while others confirmed the results and agreed that growth has limits. Still other analysts believed that growth has no serious limits. The debate over the limits of growth has continued. In the United States, surveys have shown that within the public sector, about the same number of people believe that there are limits to growth as the number of people that believe there are no limits to growth (Milbrath, 1989).

The largest gathering of world leaders in history occurred in June of 1992. The nations of the world agreed to pursue a new path—a new direction. Following the terms of Agenda 21, the nations jointly agreed to pursue a new path to put the Earth on a more sustainable course. The phrase “sustainable development” was used to describe the path to be followed (Sitarz, 1998).

Definition

The term "sustainable development" did not come into existence until the late 1970s when the World Commission on Environment and Development popularized it. This Commission, also known as the Brundtland Commission, defined sustainable development as "development that meets the needs of the present without compromising the ability of future generations to meet their own needs" (Sitarz, 1998, p. 3).

A sustainable society would replenish its resources and maintain human and other forms of life over hundreds and perhaps thousands of years. During this period, sustainable living would satisfy the needs of all citizens without depleting or degrading any of the Earth's resources which would jeopardize the prospects of current or future generations (Miller, 1998).

Humans are able to affect the global ecology in many different ways not yet conceived. Humans have in some way affected or brought about ozone depletion, global warming, deforestation, soil erosion, and species extinctions, and thus altered life on Earth. There is evidence that human demands could far exceed the supply of Earth's resources. Demands such as these could have extremely adverse effects on the social, economic, and environmental stability. In

addition, it is believed that wastes that are generated by humans in the future will far exceed the capacity of the Earth's ecology to absorb them. Unchecked, this could lead to extremely negative consequences. If these problems are not addressed, they could damage society and threaten the survival of the human species (Clayton & Radcliffe, 1996).

Sustainable Development and the United States

President Clinton created the President's Council on Sustainable Development to "develop a national sustainable development action strategy" for the United States (Sitarz, 1998, p. 3). Leaders of labor, industry, government, environment, and civil rights were given the task of formulating a plan for a sustainable society, and a blueprint for achieving it.

The President's Council prepared principles of sustainable development. As the Council set about to develop a national strategy for the United States, these principles served as a framework. One is that, to achieve a sustainable society, certain things must grow: wages, savings, jobs, productivity, profits, knowledge, information, and education. Other aspects of the society must not grow, such as waste, poverty, and pollution. Another belief is that change is inevitable and necessary. Yet another is that America should choose a path that will

lead to economic growth, environmental protection, and social justice. In order for America to become a sustainable nation, it is necessary to reduce disparities in education, opportunity, and environmental risk (Sitarz, 1998).

To achieve sustainability, the standards of environmental performance for the United States must be clear, fair, and adequately enforced. Rather than using more energy and resources, economic growth could be based on technological innovation, expanding global markets, and improved efficiency. For national and global security, it is essential to have a growing economy and a healthy environment (Sitarz, 1998).

If America is to obtain a level of sustainable living, it must strengthen communities and enhance their role in decision-making regarding society, the environment, natural resources, and economic progress. For open and effective decision-making, it is important to have a knowledgeable public and a free flow of information (Sitarz, 1998).

The United States should implement programs and policies that will contribute to stabilizing Earth's population. This is extremely important, especially if the United States is to maintain a high quality of life for

future generations. It is the responsibility of society to take responsible actions to avoid risks where there is harm to human health, or where the environment is in danger of serious damage. Citizens must have opportunity for good, high quality, lifelong education that will enable them to understand the interdependence between environmental quality, economic prosperity, and social justice (Sitarz, 1998).

Education and Sustainability

Many people in the United States have heard of recycling, the ozone layer, and global warming. However, numerous well-educated people such as educators, business leaders, policy makers, and community leaders have not heard of sustainable development or sustainable living (Sitarz, 1998).

Several approaches can be taken when educating people about sustainable development. However, the best education is both within and outside the nation's formal schooling system. This education could take the form of conferences and workshops, adult education programs, nature center programs, museum exhibits, and mass media communication. The purpose of this education is to ensure that awareness, knowledge, and understanding of sustainable living become a part of mainstream thinking. This is possibly the

greatest educational task ever confronted (Sitarz, 1998). Sustainability will help Americans to have a better understanding of how natural systems work and to better understand the interdependence of social, political, economic, and ecological conditions at the local, regional, national, and international levels.

Education will give people the necessary skills, tools, and experience to help them understand sustainable development. It will help to create a more globally competitive, skilled workforce. It will also help create more informed and responsible citizens, bridge cultures and continents, and broaden awareness through computer and communication technologies. Educators should reach beyond the walls of the schools to inform the public about sustainable development. Colleges and universities should provide information. However, education about sustainable development should not be confined to traditional school settings. Students should be exposed to issues at the local, state, national, and international levels to provide opportunities for student learning (Sitarz, 1998).

Education that informs citizens about sustainable development should emphasize connections between all subject areas. Instead of weakening individual disciplines, education about sustainable development

offers an incredible opportunity to strengthen each discipline. It will help students apply what they learn to their daily lives. Citizens will learn about the power that they have and how they can shape their lives and their communities (Sitarz, 1998).

Some businesses, schools, governments, and communities have already taken the lead toward sustainable development; however, there is much more that can be done to promote a sustainable future. For example, there should be changes in the formal education system to help and inform students, educators, and administrators about social, economic, and environmental equity. This should start at kindergarten and continue through higher education. In addition, the United States should begin policy changes that will expand access to information technologies in all educational settings. If these policies are followed, education will lead the nation and its citizens to a more sustainable future (Sitarz, 1998).

Leadership and Sustainable Development

The United States influences other countries by the force of example and by means of its economy. American companies and workers compete in a global economy and are increasingly affected by global trends and environmental changes. United States citizens have one of the highest

standards of living in the world; the U.S. is the largest producer and consumer in history. The United States has only about five percent of the world's population; however, Americans consume almost 25 percent of the planet's resources. This huge economy and the high standard of living have made the United States the largest producer of waste (Sitarz, 1998).

The United States must realize that issues of development, the environment, and security are interrelated globally. The United States will not prosper in a world that is unstable and violent. Environmental destruction, poverty, discrimination, and inequality can corrode progress and stability in any civilization. A better social and economic world can be attained where there is environmental protection, economic betterment, and a more equal distribution of the fruits of progress. The United States will improve economically, environmentally, and socially when sources of global conflict are eliminated (Sitarz, 1998).

The United States is inextricably linked to other countries through economic, environmental, and security interests. U.S. citizens cannot turn inward and ignore their responsibilities. The U.S. must take the lead in sustainable development, to help the world make the

transition to global sustainability. The United States should encourage democracy, scientific research, and enhanced economic development. This would preserve the environment and protect the health of all of Earth's citizens (Sitarz, 1998).

All leaders should participate in the global quest for sustainability. Leaders should contribute their skills to help create sustainable living for all people. The true challenge to leaders is to benefit from the system while contributing to and improving it. This is the basis of sustainable development (Schmidheiny, 1992).

Sustainable Development and the Future

Sustainable development does not mean absence of human impact on the environment. That would be impossible, as long as humans exist on the planet. However, in the ideal scenario, all impacts upon the environment would be undertaken with full knowledge of the costs and consequences (Middleton, 1995).

The emphasis on economic growth must be replaced with one on sustainable development. In order to achieve a globally sustainable future for the planet, modifications must be made in all societies. The revolution toward sustainable development must be constantly flexible,

guided by scientific and economic information and steered by private and governmental policy (Middleton, 1995).

One basis of sustainable development is a fundamental revision of the way members of the dominant culture in the United States view human nature and society. It is important to evaluate natural systems properly, in economic and other terms, and realize that maintaining a sustainable, global environment is a challenge based on a long-term perspective. If a large proportion of the human race is poor, then it will not be possible to live in a peaceful, sustainable world. If the transfer of technology and wealth from the rich to the poor does not occur at a much greater rate, then the efforts by poor nations to improve their lot will increase worldwide ecological damage (Middleton, 1995).

Another important fundamental change that people and societies must make is a return to nature. Humans must realize that we are a part of nature, not separate from it. The great industrial and urban societies have benefited from their economic development at the expense of the natural world. Traditional societies have managed to maintain their environments through spiritual connections with the natural world. Unfortunately, this view has given way to another mode of thinking: the idea

that humans should dominate nature. This idea must change. The survival of the human race depends upon the ability to stop destroying the natural systems that regenerate the planet (Middleton, 1995).

Those powerful institutions that are in control need to change direction and support new directions. Governments today emphasize money, trade, and national defense. However, governmental priorities of change, through institutions such as the North Atlantic Treaty Organization or the World Bank, usually have a very short history. As the importance of environmental concern continues to grow, government will see the need to change and adjust accordingly. The only other alternative will be institutional collapse.

Clearly, members of complex industrial societies need to revise their beliefs, values, and behavior. However, the most important aspect to be realized is that it is the responsibility of people to bring about changes that will result in a better society (Middleton, 1995).

Summary

Sustainable development means development that will meet the needs of the present without compromising or destroying the ability of future generations to meet their

needs. It would satisfy the needs of all citizens without degrading Earth's resources.

It is important that people be educated about sustainable development. It should become a part of mainstream thinking. Education will give people the skills, tools, and experience necessary to help them understand sustainable development and bring about a more viable future.

In order to achieve a globally sustainable future for the planet, modifications must be made in all societies. A better social and economic world can be attained featuring environmental protection, economic betterment, and a more equal distribution of the products of progress.

Multicultural Education

What is Multicultural Education?

Multicultural education can be said to be "a process of comprehensive school reform and basic education for all students" (Nieto, 1996, p. 208). It is an interdisciplinary process rather than a single program or a series of activities (California Department of Education, 1977). Multicultural education should help students recognize their worth and the worth of all people. Multicultural education should help students

accept themselves and other people as having dignity and worth. It should also help students to respect all people regardless of ethnic, racial, cultural, religious background, or physical differences (California Department of Education, 1977).

In order to achieve its goals, a multicultural program should emphasize the similarities and differences among people and groups. These similarities can then be viewed as characteristics that make individuals human. The differences should be explored as characteristics that make a person or a group unique and special (California Department of Education, 1977). In this way, differences can be seen as positive and help students respect and accept diversity. This would include cultural, emotional, physical, and other differences in people's life styles (California Department of Education, 1977).

One viewpoint of multicultural education is that it should be viewed as a mode of experience and learning integrated throughout the curriculum and the school. Each student should be supported in developing a positive self-concept, respect for others, and personal and social responsibility. Each should receive the support and services needed to help him or her develop these concepts. Each school's multicultural program should be responsive

to students' needs and provide a range of options in the curriculum (California Department of Education, 1977).

Multicultural education challenges racism and rejects all forms of discrimination in schools and society. It affirms the pluralism (racial, economic, ethnic, linguistic, religious, and gender) represented by students, their teachers, and communities. Multicultural education should also permeate the curriculum and instructional strategies and influence interactions among the teachers, students, and parents, changing the nature of teaching and learning. Multicultural education furthers democratic principles of social justice by using critical pedagogy as its principle philosophy, and focusing on knowledge, reflection, and action as the basis for social change (Nieto, 1996).

Multicultural education has a number of characteristics. However, certain ones stand out and are considered most important: 1) multicultural education can be considered to be antiracist education; 2) it is basic education; 3) it is education for social justice; 4) it is a process; 5) and it involves critical pedagogy (Nieto, 1996).

Beginnings of Multicultural Education

Multicultural education in this country had its beginnings in the civil rights movement of the 1960s, as African Americans demanded rights as human beings. This was unprecedented in the United States (Banks & Banks, 1989).

One of the major goals of the civil rights movement was to eliminate discrimination in education, employment, housing, and public accommodations. The consequences had great repercussions on education in the United States. African Americans and other groups demanded that schools and educational institutions reform their curricula to reflect the histories, cultures, experiences, and the perspectives of Black people. Ethnic groups demanded that schools hire more teachers and administrators of color, so children would have more diverse role models to look up to. Ethnic groups began to advocate community control of schools and revision of textbooks so they would reflect the wide diversity of peoples in the United States (Banks & Banks, 1989).

The success of the civil rights movement was a catalyst for other victimized groups to take action and demand that the educational system respond to their specific needs, cultures, aspirations, and histories. At

this time, the women's civil rights movement was also playing a significant role. During the 1960s and the 1970s, discrimination against women was prevalent in the United States. Leaders of the women's rights movement demanded that the economic, social, political, and educational institutions provide opportunities for women so they could actualize their talents and achieve their ambitions. When feminists in the women's rights movement began to examine educational institutions, they discovered problems similar to those identified by ethnic minority groups. Feminists then demanded that more women be hired for school administrative positions. Other groups, such as disabled persons, senior citizens, and gay rights advocates, also made their demands heard at this time (Banks & Banks, 1989).

Multicultural education eventually grew out of all the courses, practices, and diverse programs that the schools established in response to these needs and demands. Multicultural education is not just an identifiable course or program instigated by an educational institution. Rather, it is a wide variety of programs and practices related to needs identified by women, ethnic, language minority, and low-income groups. However, the best overall definition that is used by many

authors would be the one used by Banks: "...a total school reform effort designed to increase educational equity for a range of cultural, ethnic, and economic groups" (Banks & Banks, 1989, p. 6).

Principles of Multicultural Education

Multicultural education, like any other movement, has certain key principles, as follows: multicultural education is appropriate for all students and school settings; cultural pluralism should occur in the educational process to accommodate and value diversity; multicultural education is a valid tool for engaging culturally different students; education should promote cultural diversity in the United States without any form of discrimination; and multicultural education empowers groups and individuals and prepares them for liberation and social transformation (Gay, 1994).

Advocates of multicultural education promote the following goals: all libraries, curriculums, extracurricular activities and assemblies should incorporate multicultural education. The practices and policies of each school should foster friendly interaction between and among different cultural groups. Holidays, festivals, and other functions should be recognized to help develop the worth and dignity of each student. The

staff at each school should be multiethnic, multicultural, multilingual, and reflect the ethnic and racial character of the community (California Department of Education, 1979).

These principles suggest a relationship between multicultural and general education. They address three main areas: establishment of the primary goals of an educational system, the promotion of social and national unity, and the use of the best and most effective methods of teaching and learning (Gay, 1994, p. 54).

Critics of these principles state that because multicultural education emphasizes differences among ethnic, social and cultural groups, it creates obstacles to racial harmony and the promotion of the common good across the different groups. However, people that support multicultural education focus on its pedagogical potential. They believe multicultural education can make life better academically, socially, and psychologically for all students, not just a few. Multicultural education proponents also believe it is essential if schools are to fulfill the basic task of socializing students for the society in which they live (Gay, 1994).

The people that support multicultural education see it as a means of helping the education system reflect

social realities, enrich the common national culture, and help ensure all students have equal rights, dignity, justice, freedom, and unrestricted participation in the educational process. Supporters of multicultural education look at it "...as a restatement, translation, or application of the democratic principles to which our society and schools are committed within the context of ethnic and cultural pluralism" (Gay, 1994, p. 55).

Legislation and Legal Beginnings of Multicultural Education

Looking back at the history of multicultural education in this country, one can see that the Federal government has played somewhat of a limited role in the support of public education (Rodriguez, 1983). One of the most important legal actions that has affected the education of minorities is the benchmark case of *Brown v. Topeka Board of Education*. This U.S. Supreme Court case stated that segregated schools were unequal and state laws that provided separate schools for black and white students were unconstitutional (Tiedt & Tiedt, 1989, p. 9).

In 1957, a decision established the U.S. Commission on Civil Rights. This independent, bipartisan agency later published *A Better Chance to Learn: Bilingual-Bicultural*

Education, a report targeted by educators as a "means for equalizing educational opportunity for language minority students." It was published in 1975, and summarized efforts to help those students in schools that spoke languages other than English (Tiedt & Tiedt, 1989, p. 9).

The Civil Rights Act of 1964 and the Elementary and Secondary Education Act of 1965 also helped students of limited-English-speaking ability. Education programs under Title I were intended to provide additional financial support to help impoverished and "educationally deprived" school age children (Rodriguez, 1983, p. 48).

Because of the great political pressure of the 1960s, the educational needs of many limited-English-speaking students in American public schools were brought to the fore. This culminated in 1967 with the introduction of the first bilingual education bill to be considered by Congress. It was finally passed in Title VII of the Elementary and Secondary Education Act of 1965. Title VII basically acknowledged the presence of children with limited-English-speaking ability in American schools. It went on to state that the child's language and cultural heritage was the primary means of learning. It also stated that the needs of these children can be met by using

bilingual educational methods and techniques (Rodriguez, 1983).

Multicultural Instruction for Teachers

The United States contains many language-minority students. In California alone, there are approximately 1.5 million students living in 3.1 million language minority households. This has created a great demand for bilingual teachers. In California classrooms, the dominant teacher is the European American, middle-class teacher (Diaz-Rico, 1998).

Teachers that enter the field of ESL should be trained in methodologies that include a program of multicultural education so they will develop an appreciation of language-minority students. Multicultural education, however, must go beyond the level of simply preparing teachers to use basic educational approaches to solve the problems of ethnic groups. It should also be transformative and geared to promote social action (Diaz-Rico, 1998).

Unfortunately, most teachers deny the existence of racist beliefs. On campuses and in classrooms, ethnic slurs and racially motivated hate crimes are on the increase. It has been documented that students enter multicultural education with attitudes and beliefs

reflecting the current racial status quo. Research has shown that college student belief systems can be changed when they participate in a multicultural course. Unfortunately, the change has little lasting effect (Diaz-Rico, 1998).

ESL teachers have the responsibility of educating poor students. One out of four students is now living below the poverty level. This includes five million children under the age of six. Another 2.7 million children that are also under the age of six have been classified in the "near poor" category. For example, 24 percent of Hispanics currently live in poverty. Unfortunately, even though poverty is widespread among language-minority students, a critical discourse about the nature and origin of this poverty is not part of teacher training (Diaz-Rico, 1998, p. 71).

What is absent in today's educational system is the image of the teacher as a person who promotes social order and furthers social justice. Therefore, techniques should be incorporated into a multicultural teacher education program to produce teachers who are generally transformative and believe in social action. It is important for multicultural teacher education programs to incorporate techniques of transformation in their

curriculum so that one of their goals would be, "...to promote engagement in the struggle to achieve a just society" (Diaz-Rico, 1998, p. 71).

Summary

Multicultural education is a process of comprehensive school reform and basic education for all students. It is an interdisciplinary process rather than a single program or a series of activities. A multicultural education program emphasizes the similarities and differences among people and groups and should be viewed as a mode of experience and learning integrated throughout the curriculum and the school. Multicultural education should also be viewed as a wide variety of programs and practices related to needs identified by women, ethnic, language minority, and low-income groups. It is a means of helping the education system reflect social realities, enrich the common national culture, and help ensure that all students have equal rights, dignity, justice, freedom, and unrestricted participation in the educational process.

Conclusion

Adult, ESL, and multicultural education are important aspects of general education. Globalization, environmental awareness, and sustainable development, are crucial topics

for survival. Taken together, these six topics can constitute a curriculum based on sound educational principles and vital issues that face society.

It is essential for people to become involved in the problems that face society. Teaching people about globalization, environmental awareness, and sustainable development through ESL and other avenues of education can assist them to address issues with information and knowledge.

Having a good education will help people not only to accept other humans, but also to address the local problems of their society, as well as more global issues. Disciplines such as ESL and multicultural education build skills that are useful in solving some of the problems that people face every day. With a well-rounded education, people of every nation can meet their problems directly and solve disturbing issues such as pollution, globalization, and environmental destruction.

CHAPTER THREE

DEVELOPING ENVIRONMENTAL AWARENESS AND SUSTAINABLE DEVELOPMENT

Following the review of current literature, a framework emerges that is driven by theoretical concepts in the fields of ESL, adult education, multicultural education, globalization, environmental awareness, and sustainable development. The theoretical framework for developing environmental awareness and sustainable development in an ESL setting consists of three major domains. The outermost domain of this framework is the adult education domain, ESL. The ESL/Adult Education domain corresponds to the target student population of this curriculum design, adult learners. The ESL domain subsumes a learning philosophy, which specifies the fundamental aspect of the learning process, contextual learning. This learning philosophy domain focuses on real world learning situations through the use of case studies and simulations. Contained within the learning philosophy domain is the topic domain, lesson plans based on contextual learning. The topic domain for this project focuses on multicultural education, globalization, environmental awareness, and sustainable development.

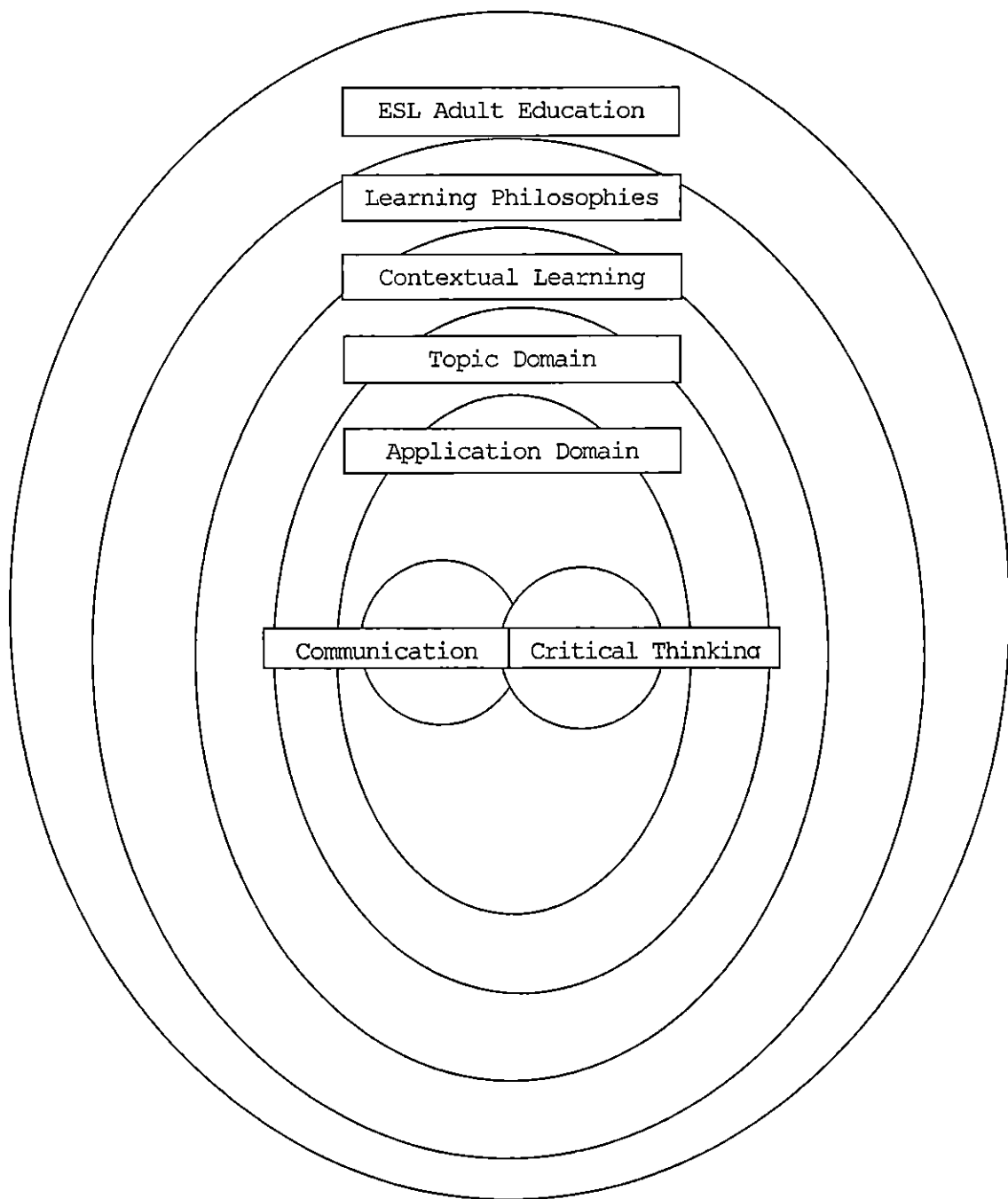


Figure 1. A Model of the Theoretical Framework

English as a Second Language/Adult
Education Domains: English for
Specific Purposes

The term ESL/Adult Education provides the context of this curriculum design. It corresponds to the ability level and interest of the students focused on in this curriculum. The literature review has shown that ESL/Adult Education in this project supposes that students involved in the learning process intend to use English for occupational purposes, will be adult learners, and need to be made aware of global environmental issues. The curriculum of this project is based on the above assumptions. In order to design an interesting and effective curriculum for ESL adult learners, the following learning philosophy domain, topical domains, and discourse domain have been chosen.

Learning Philosophy Domain:
Contextual Learning

The learning philosophy domain provides the basic framework of how learning takes place. This curriculum proposes contextual learning as underlying learning philosophy for the following two reasons. The first reason is that contextual learning promotes integration of knowledge and its application in the real world. Therefore, it can cover one major disadvantage in

multicultural education, that is, lack of the integration between learning language and its multicultural application. The second reason to use contextual learning is that this philosophy involves adult learners in situations that allow them to consider their own experiences and promotes a more personal and self-disciplined style of learning.

To promote the integration of learning and doing, case studies and simulations are often used in a context that students can relate to their daily lives or occupational environment. To bring knowing and doing together, students must be involved in authentic situations. Classroom simulations allow students to role play and give them a chance to involve themselves in the active process of learning. Therefore, contextual learning, is the focus of this project.

Integration between Learning and Application

The main focus of contextual learning is integration between learning and implementation. Learning can be strengthened and made personal through classroom simulations. Usually there is a time gap between learning something and its application in a student's life. There is usually a gap between theory and practice, denotative

learning, and cognitive learning. In order to fill the gap between knowledge and its application, interactive contextual learning through experiences is essential. Therefore, the teacher should provide opportunities to involve students so they can test what they have learned, rethink their perspective, decide on appropriate action, and bring the new knowledge and its application together into their own daily lives. Then they have fully integrated the learning so that it can be useful throughout their lives.

Experiencing case studies, simulations and role-plays based on real situations, students apply and deepen their knowledge, communication skills, critical thinking in the given situations, and thereby bring the processes of learning and doing together.

Classroom Involvement of Students

Considering the characteristic features of contextual learning, active involvement of students in real world activities becomes an important part of the implementation of contextual learning theory. Additionally, the characteristic of adult learners requires they become involved with their own learning in order to promote efficient learning through active participation. Thus,

they can be encouraged to be responsible for their own learning and experience opportunities to communicate and bring their personal experiences into a classroom setting so they feel they are contributing. Therefore, promoting active involvement of students is a crucial part of this project and its curriculum.

Topic Domain

Within the learning philosophy domain of contextual learning lies the topic domain. It entails a specific set of topics used to present terms, concepts, and situations to the students. The main idea of topical learning is that language is embedded in a situation, so the language learned is not simply memorized but is in the context of situations. In this way, the process of learning language also teaches the context in which it is used.

The main topics focused on by this project are multicultural education, globalization, environmental awareness, and sustainable development. Each of these topics has language and concepts explained and contextually presented to the students through the use of case studies, simulations, and role play. Students learn how to apply the principles and language topically within a multicultural situation. They also learn how to apply

them through use of critical thinking within complex situations that will expose them to the skills needed for intercultural communication and critical thinking as it applies to sustainable development.

Providing Language in Context

According to the previous literature review of the nature of the global, multicultural environmental situation and its solution using sustainable development, along with principles from ESL/Adult Education, language should be presented within its multicultural/global context. Language separated from its context is both abstract and difficult to apply in the lives of most ESL students. At this level, situation-based learning needs three elements to be present to make the teaching effective: to provide the terms or language in the context that it is used, to adequately describe the situation to be studied using the new language, and to involve the students in the situation so they can use and apply the language.

All the language and principles used in this project and curriculum design will be presented with a certain context. The context is one of environmental awareness and sustainable development. Hence, this curriculum design

presents language and principles in the context of critical thinking.

Communication and critical thinking are at the core of all the topics in the lessons of this curriculum. There are two reasons to use overlapping communication and critical thinking as a part of these lessons. First, communication skills are necessary to obtain information to understand the dynamics of today's world, today's global issues, and the role of American society. Second, critical thinking requires cultural understanding, intercultural communication, and the ability to critically determine an appropriate action.

Therefore, this project involves multicultural discourse based on multicultural communication skills and critical thinking. In the final lesson, students will discuss environmental issues, and role play the different competing participants in the complex world of the global environment. The students will learn how to make critical decisions and express their ideas in a group situation.

In summary, the major focus of this curriculum, a global-multicultural understanding of environmental issues, is comprised of contextual learning through the use of case studies and simulations on the topics of multicultural education, globalization, environmental

awareness, and sustainable development. In addition, this project and its curriculum will focus on developing intercultural communication and critical thinking.

CHAPTER FOUR

CURRICULUM DESIGN

Curriculum Organization

This curriculum contains an instructional unit with five lesson plans designed for ESL students of adult age. The five lesson plans are designed to help ESL students learn about the importance of protecting the environment, exploring new ideas and concepts of energy, and learning about multicultural education and sustainable development, while at the same time acquiring the skills and the ability to speak in English.

Characteristics of the Curriculum

As previously mentioned, the curriculum in this project consists of five lesson plans. Three of the lesson plans are directly associated with the environment. One is a lesson plan on multicultural education and the last one is a simulation model that directly connects the environment with sustainable development.

The three lesson plans that pertain to the environment help students learn English. These lesson plans also introduce environmental issues to the students with the idea of critical thinking and how to solve the problems that face society and the world. The lesson plan

on multicultural education addresses the issues of prejudice and the concept that people formulate ideas based on appearance. The last lesson plan, a case study simulation model, looks at the practical aspects of how a solar-powered house could benefit society by means of using a source of energy that is not destructive to the environment.

The purpose of these lesson plans is to let students become familiar with the significant issues relating to the environment and the issues that face people in everyday life. Each lesson has been designed to introduce new English words into the students' vocabulary, to help the students understand how the environment and individuals are related, and to help open up students' minds as to new and varied forms of energy, that can replace fossil fuels.

In all of the lesson plans, except one, the students are divided into groups. This allows each student to work with other students from different countries and different cultures. It also supports cooperation among people from various backgrounds because they are required to work together in order to arrive at a conclusion.

The environmental awareness lesson plan has a lot of hands-on work. It allows the students to work in groups

while cooperating with other students. This helps the students to practice conversation with their new English words.

One lesson plan, globalization, focuses on the problems of globalization. It forces students to use critical thinking to arrive at an amicable solution while learning the concept of globalization and working cooperatively in groups.

These lesson plans are designed to work together to teach students about multicultural education and globalization, and to make students aware of the problems and issues of the environment that now face the world. These lesson plans are also designed to introduce new ideas and concepts into the students' vocabulary.

Each lesson includes some kind of an assessment. These assessments are designed to evaluate the students' understanding of the content of each lesson and to decipher if each student has a good foundation of the concepts that were presented in each lesson plan.

The Content of Each Lesson

Lesson One

The purpose of Lesson One is to introduce the term or concept of recycling to students. Many people that study

English may not have heard about recycling and they may not understand the basic concept of recycling.

This lesson plan is divided into three parts. The first part of this lesson plan is to teach the ESL student the concept of recycling and what it means, the second part is the actual hands-on observance of objects that can or cannot be recycled, and the third and final part is where the students create new ways to recycle products.

Part two consists of the students coming together into groups, examining products, and then determining which products can and cannot be recycled. The students will need to bring products and then examine the products or look for the recycling sign, which may or may not appear on the bottom of products, thus determining the ability to be or not be recycled.

Part three is the creative part. This consists of the students coming together and creating new ways of recycling products. This part involves critical thinking and creativity.

Lesson Two

Globalization is introduced and explained in this lesson. Many people have heard of recycling; however, much of the population has not heard or does not understand the concept of globalization. This lesson helps students to

understand globalization and comprehend the effects that it has on the planet. It also helps students to think critically and to arrive at solutions to world problems and issues.

This lesson is divided into three parts. The first part involves the reading of a problem involving globalization. This part helps the students incorporate globalization into their vocabulary through the reading of current problems and helps them practice their pronunciation of new words, such as globalization.

The second part involves critical thinking. In this part, the students will participate in a group discussion of the globalization problem. The students will have to discuss what would be the best solution to the problem that is in question.

Part three involves writing. The students will write a one-page paper explaining the solution to the globalization problem. This part not only enables the teacher to analyze the students' writing, but also helps the teacher to determine if the students understand the concept of globalization.

Lesson Three

In Lesson Three, the students are introduced to the term, sustainable development. This lesson is used to help

students understand the concept and the basics of sustainable development. It also shows how sustainable development can be applied to different forms of energy so that the planet can sustain itself for generations and not create excess pollution. The final part of this lesson plan compares different forms of energy with energy forms based on sustainable development. In this final part, the students are encouraged to be creative, to use critical thinking, and to try to come up with many and varied forms of energy that can be used in a sustainable way so that the Earth will not become polluted.

Lesson Four

This lesson deals with multicultural education. The purpose of this lesson is to show that people can formulate ideas about people based on appearances or prejudices. It also shows that cultural diversity can transcend race. Another purpose is to teach students of the same groups that they often have very different backgrounds and that students of different groups often have more similar backgrounds than they realize.

The first part of the lesson plan has students sit in a circle and give a little background about themselves for a few minutes. They state their name, give their ethnic

background, tell where their parents were born, and which generation they represent in America for their families.

The next part is where the students write down their impressions of one or two students based solely on appearance, background information, and their prejudices. It is important to remind the students to write down exactly what they feel about the other students.

The last part is when each student describes one family custom or tradition that his or her family has been practicing. Each student speaks for approximately two minutes. After this, each student returns to his or her desk and compares what they have learned about another student or students. This particular lesson plan will help students understand how they formulate ideas about people based on appearance and prejudice.

Lesson Five

This lesson plan is a case study that deals with sustainable development. It shows how sustainable development can be applied to provide energy for a home in a real world situation.

Lesson Five focuses on the positive economic aspects of owning a house that is powered by solar panels. The students are given financial information on how much it would cost to operate a house with solar panels. After the

students and the teacher have talked about operating a house powered by solar panels, the students are asked to calculate the operating cost of a conventional house of today compared to the operating cost of a solar powered house. During a discussion, the students talk about the positive aspects of owning a solar-powered home. The students then write a paper on the positive characteristics of owning a home that is equipped with solar panels.

In summary, this chapter has discussed the lesson plans and how each lesson plan focuses on helping students develop a higher competence of the English language through experiences such as speaking and critical thinking. The lesson plans also teach students about globalization, multicultural education, and issues of the environment that face the world. All the lesson plans have been constructed for the purpose of promoting and facilitating an effective learning process for the English language.

CHAPTER FIVE

ASSESSMENT

Assessment has become an integral part of the educational system in the United States. It has enabled students, educators, and teachers to evaluate students' progress and development toward a specific goal or goals. It has helped teachers and educators to improve students' motivation, to increase students' achievement, and improve teacher instruction (Brookhart, 1999).

Using assessment in an ESL program can be very helpful. It can be of assistance in evaluating students' progress toward their linguistic objectives of a course, it can help determine the attitude of ESL students toward the English language and native English speakers, and it can assist in appraising the overall effectiveness of an ESL program and how it can better serve the needs of the students (Finocchiaro, 1989).

Assessment can be used to determine the level of knowledge or a student's level of performance in a specific subject. The results later can be used to help the student or learner to improve his or her performance or knowledge in a specific subject or field (Diaz-Rico & Weed, 1995).

Purpose of Assessment

Good quality assessment and high-quality grading will help students' achievement, effort, and motivation. First-rate assessment will make it easier to design and deliver sound instruction (Brookhart, 1999). Assessment has the positive quality of informing the teacher or educator what the strengths and needs of the learner may be so that the student can be properly instructed or placed in the proper level. Assessment can reveal what a student's previous learning has been and ultimately of course, assessment will be able to reveal whether or not a student should or should not be promoted (Diaz-Rico & Weed, 1995).

Types of Assessments

There are various kinds of assessments that are used to evaluate students' performance and knowledge. However, according to Diaz-Rico and Weed (1995), there are three types of assessments: performance-based testing, standardized tests, and teacher observation and evaluation.

Performance-Based Assessment

This type of assessment can easily be incorporated into the routine of the classroom and the learning

activity that is being taught by the instructor. This is an excellent assessment technique because it corresponds directly to what is being taught in the classroom.

Performance assessments can be divided into two types: structured and unstructured. The structured includes assessments such as checklists, tests, questionnaires, and observations. The unstructured assessment could include activities like games, journals, story retelling, anecdotal reports, or student work samples (Diaz-Rico & Weed, 1995).

One of the advantages of structured assessment is that it can be graded quickly. Unstructured assessment does have some negative qualities. One of these is that it is very time-consuming. Others include being imprecise and subjective. However, even though negative qualities exist, one of the positive aspects is that it can provide valuable information about students' abilities (Diaz-Rico & Weed, 1995).

Classroom tests are a form of performance-based assessment. From a negative point of view, this type of test is inclined to divide knowledge into small pieces that could possibly be away from an applied situation. However, concerning ESL, these tests require students to

have a large reservoir of answers and to have judgment and skill when using a language.

Another form of performance-based test is the portfolio assessment. The purpose of this type of examination is to maintain a record of students' progress over a long period of time to show progress by showing an understandable measure of students' productivity instead of just a single grade or number. This assessment is good because it offers the student a chance for improvement by showing progress and accomplishment (Diaz-Rico & Weed, 1995).

Standardized Tests

These tests can also be administered in the field of ESL. They are excellent because they offer a sound foundation or common standard of performance by which to judge a student regardless of local conditions or the abilities of the students. Standardized tests are considered good because they are considered to be unbiased; however, questions have arisen as to their impartiality (Diaz-Rico & Weed, 1995).

The two types of standardized tests are norm-referenced tests and criterion-referenced tests. The norm-referenced tests compare a student's test against the scores of a group of students in which the test has been

"normed." Criterion-referenced tests are used to find out how much language skills or material a student has learned. This test shows how a student does in relation to certain material as compared to a large group of students (Diaz-Rico & Weed, 1995).

Teacher Observation and Evaluation

The first assessment under this category is the observation-based assessment. In this assessment, the teacher observes the student under different circumstances and environments such as giving a report, working in a large group, or using the target language. Teachers should use this assessment with as many types of curricula and in as many interactional situations as possible. This is an excellent assessment for instructors to obtain student progress and variety.

Teacher-made tests can be placed in this category. These tests are the basis many times for classroom grading. Teacher-made tests are usually not as reliable and valid as standardized tests; however, teacher-made tests have certain positive aspects such as ease of construction and relevance to classroom learning. Because of these qualities, they are very popular. Teacher-made examinations usually test such areas as writing

proficiency, listening, oral fluency, and grammatical accuracy.

Grading is the final evaluation of a student. In ESL classes, the work of students is usually given a final assessment by a grade of A-F, which has been assigned by the instructor based on their effort, achievement, and behavior. However, in some schools, the final evaluation is given with a pass/fail grade. The one positive aspect is that it avoids comparing students that are proficient in English to the ESL student (Diaz-Rico & Weed, 1995).

Assessment in this Unit

In this project, portfolio assessments and performance-based assessments are primarily used throughout the lessons. Teacher observation and evaluation are also used in order to analyze the capability and the extent of the students' knowledge of the target language. These assessments make it possible to determine the strengths and weaknesses of students, which in turn, will help the students to master the target language.

Standardized tests are not used in this project. If, however, students wish to know how much they have improved, they can take a standardized test.

Assessment is a very critical part of the educational system. There are many, varied types of assessments and they are not the final appraisal of a student's comprehension of a specific area or subject but rather a tool that is used to help the student in pointing out his/her strong points and any areas that may need improvement. Assessment is a guide to help the student along the path to his/her goal. It is a valuable tool which should be accurate and applicable in all situations.

All of the concepts in this project have been explained. These concepts are an integral part of establishing an indispensable, solid foundation for learning a target language, while at the same time teaching students about the environment.

The lesson plans are given in the appendix. Each lesson plan has been constructed to facilitate a proper and effective plan for learning a target language.

APPENDIX
LESSON PLANS

The Titles of Each Lesson

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Lesson One Environmental Awareness

Instructional Plan: To introduce recycling to students; to help them become more aware of their environment; to help students gain a better understanding of their environment; to help students understand how they can help the environment and to help them identify which products can and cannot be recycled.

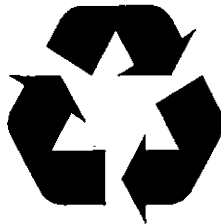
Level: Adult Intermediate Fluency

Length of Lesson: 2.0 hours

Objectives:

1. To introduce the term "Recycling" to students.
2. To help students understand and comprehend what products can be recycled.
3. To help students understand and recognize products and terms associated with recycling.
4. To motivate students to be creative and develop new and different ways to recycle products.

Warm-Up: The teacher draws this symbol on the board and asks if anyone knows what it means.



The teacher should wait about 30 seconds to one minute to see if any students know what this symbol means. If no one gives an explanation within one minute, then the teacher should explain to the students that this is the symbol for recycling. The teacher should further explain that if something can be recycled, this symbol might appear on some part of the product, indicating that the product can and should be recycled. To help the students understand this concept, the teacher should hold up a container that has the recycling symbol on it. This will help the students to better understand the concept of recycling and help them recognize the recycling symbol.

Task Chain 1: *Recognizing products that can be recycled*

1. Show the students some products that can be recycled, such as an empty Coca Cola or Pepsi aluminum can, some empty glass containers, a couple of newspapers, and one or two clear plastic containers.
2. Divide the class into groups and have the students look and examine the products. Have the students decide which products can and cannot be recycled. Then have the students make a list of those products that can and cannot be recycled and put them into separate groups.

Task Chain 2: *Recognizing products from your home*

1. Have the students bring different products and containers from their home so they can study them and ascertain if these products are capable of being recycled.
2. Divide the class into small groups and have the students examine the various products each student brought from their home.
3. Next, have the students make a list of the products that they brought to class. The list will consist of two columns, "Type of Product," and "Recyclable."
4. Have the students divide the products and containers into two groups, those that are recyclable and those that are not recyclable. This will help the students gain a better idea of what is recyclable and what is not recyclable. The following Focus Sheet will help students to decipher what is recyclable and what is not recyclable.

Focus Sheet 1

Type of Product:

Recyclable:

- | | |
|----------------------------|---|
| 1 Empty Pepsi aluminum can | 1 Yes <input type="checkbox"/> No <input type="checkbox"/> Do not know <input type="checkbox"/> |
| 2 Empty glass container | 2 Yes <input type="checkbox"/> No <input type="checkbox"/> Do not know <input type="checkbox"/> |
| 3 An old plastic bag | 3 Yes <input type="checkbox"/> No <input type="checkbox"/> Do not know <input type="checkbox"/> |
| 4 A copy of a newspaper | 4 Yes <input type="checkbox"/> No <input type="checkbox"/> Do not know <input type="checkbox"/> |
| 5 An old plastic glass | 5 Yes <input type="checkbox"/> No <input type="checkbox"/> Do not know <input type="checkbox"/> |
| 6 A dark bottle of wine | 6 Yes <input type="checkbox"/> No <input type="checkbox"/> Do not know <input type="checkbox"/> |

Have the students mark which one they believe applies to the product that they are trying to ascertain is recyclable.

Task Chain 3: *Working with non-recyclable products*

1. Have students bring some products to class that are usually not recyclable.
2. Break the students up into small groups and have them share their products and explain exactly what they believe the products are made of.
3. Have the students talk about the products and share ideas with each other on ways these non-recyclable products can be recycled.

Final Assessment: *Creating new ways to recycle products*

1. Explain to the students that there are products that are usually not recycled. Some of these products were brought by the students from their homes, and are now in front of them in the classroom. The students are to examine and study which products are not usually recycled.
2. Have the students create a chart and write on the chart the different ways that they feel products can be recycled. The purpose of this chart is to motivate students to be creative and come up with new ideas on how to recycle products. This chart is to be done for homework.

Product:

1 Old sofa cushion

2 Old wire coat hangers

3 Old but usable clothes

New idea for recycling:

1 Give cushion to Good Will or some other group that can recondition it and use it again

2 Donate to local dry cleaners or give to local charitable organization

3 Donate to local charitable organization or give to needy family

At the next class period, have the students present to the class the original ways they created to recycle products.

Lesson Two

Globalization

Instructional Plan: To teach people about globalization

Level: Adult Intermediate Fluency

Length of Lesson: 1.5 to 2.0 hours

Objectives:

1. To help people understand globalization and its effects.
2. To show how globalization could be the deciding factor in the destruction of a civilization.
3. To help people understand that the protection of the environment is a critical issue.
4. To provide practice conversation that will help develop English-speaking skills.

Warm-Up: Write the word, globalization on the board and then ask the students if anyone knows what this word means. After two or three minutes of taking responses from the students, the teacher will explain what globalization is if no one knows.

Task Chain 1: *Explaining issue # 1, The XYZ Company of Europe*

1. Pass out paper (Focus Sheet 1) with the information of the XYZ Company on it.
2. Have one student volunteer to read the information to the rest of the class.
3. Have students divide into groups and discuss the information.
4. Have students write down the important points of issue # 1.

Task Chain 2: *Explaining issue # 2, the ABC Tribe in Brazil*

1. Pass out paper (Focus Sheet 2) with the information of the ABC Tribe on it.
2. Have one student volunteer to read the information to the rest of the class.
3. Have students divide into groups and discuss the information.
4. Have students write down the important points of issue # 2.

Task Chain 3: *Discussing the issues at hand*

1. Divide the class into two groups. One group will represent the XYZ Company of Europe and the other group will represent the ABC Tribe in Brazil.
2. Have one representative from each group go to the board and wait for the other students to speak.
3. Alternatively, have one person from each group stand up, speak and defend their group and explain why their group is correct. This should be limited to three minutes per student.
4. As each person speaks, have the one representative from each group that is at the board write down in numerical order, the representative's main point of discussion.

Task Chain 4: *Discussing solutions*

1. While they are in groups, have the students discuss solutions to the problems at hand.
2. After the students have discussed their solutions, have a representative from each group write at least two solutions from each group on the board.
3. The students will now discuss the solutions at length and add more solutions, if possible.

Final Assessment: *Checking students' papers*

1. After the students have thoroughly discussed the problems and the solutions, each student will write a one-page paper on the solution that they feel will solve the problem best for all concerned. This is to be done for homework. At the next class period, the teacher will examine the papers and determine if the students understand the concept of globalization.

Focus Sheet 1

The XYZ Company, with its headquarters in Europe, is an extremely large conglomerate with industries and factories located throughout the world. Recently, the XYZ Company expanded into wood and wood products, consequently, sending representatives and equipment into the forests of Brazil to set up a factory. This factory processes the wood and sends it to different parts of the world. This process requires that the logging of trees continue on a consistent basis in order to provide the world's demand for wood and wood products. The growth and progress of the XYZ Company depends upon expansion into the forests of Brazil. However, if the XYZ Company continues to expand, they will not only destroy part of the world's Rainforest that provides approximately 22% of the oxygen supply for the planet, but they could possibly contribute to the demise of the ABC Tribe that has lived in the forests of Brazil for hundreds of years. If the XYZ Company does not expand and grow, hundreds of people could possibly lose their jobs. This would contribute to more unemployment and an even larger welfare state. However, if the XYZ Company does not stop the logging of trees, but rather continues its march into the virgin forests of Brazil, then two major occurrences could possibly happen: the manufacture of oxygen for Earth will be diminished and the ABC Tribe could possibly become extinct.

Focus Sheet 2

The ABC Tribe has lived for many years in the Rainforests of Brazil without any encroachment from other human beings. However, with globalization becoming more prevalent, the ABC Tribe is experiencing the effects of globalization first-hand. The XYZ Company is encroaching upon the ABC Tribe's land and forcing them to seek a suitable home elsewhere. The tribe has appealed to the United Nations for help on the grounds that the XYZ Company is destroying its sacred land and contributing to the destruction of Earth. The ABC Tribe has asked for an immediate and complete shutdown of the XYZ factory in order to help save the tribe's land and put a stop to the destruction of the Rainforest. The XYZ Company has responded by saying that economic growth is necessary for the company's existence and for the survival of its employees.

If the XYZ Company closes its doors, there will be a great deal of unemployment and economic unrest. However, if the XYZ Company remains open, people will prosper, the economy will remain stable, and the oxygen supply will be depleted even more than before. Is there a solution to this problem? Can the effects of globalization be halted without any harm to the XYZ Company or the ABC Tribe? How can an equitable solution be found without harm to either side?

Lesson Three

Multicultural Education

Instructional Plan: To help people become multiculturally aware and to learn about the diversity and similarities of cultures

Level: Adult Intermediate Fluency

Length of Lesson: 1.5 to 2.0 hours

Objectives:

1. To show that people formulate ideas about people based on appearance or prejudices.
2. To show that cultural diversity transcends race.
3. To teach students of the same groups that they often have very different backgrounds.
4. To teach students of different groups that they often have more similar backgrounds than they realize.

Warm-Up: The teacher explains that when a person sees someone, they formulate their ideas about that person based on appearances and personal prejudices.

Task Chain 1: *Talking about their background*

1. Have students sit in a circle.
2. Give their name and nicknames.
3. State their ethnic background, where they are from.
4. Tell where their parents were born.
5. State which generation they represent in America for their families.

Task Chain 2: *Writing down impressions of one or two people in the group*

Students will write down their impressions of one or two other students based solely on appearance, background information, and their prejudices.

Task Chain 3: *Describing one custom or tradition that their family practices*

1. Each person will speak for no more than two minutes describing their family custom or tradition.
2. Students return to their desks and see what they have learned about the person and compare what

they have learned about another student or students.

3. This part is not to be shared among group members, but can help people understand how they formulate ideas about people based on appearance and prejudice.

Final Assessment: People will write a paper to be turned into the teacher expressing what they have learned in the following four areas:

1. That members of the same groups often have very different backgrounds.
2. Often members of different groups often have more similar backgrounds than they realize.
3. Cultural diversity transcends race.
4. Many people find out information which allowed them to connect more closely with someone in the group.
5. Students should write a few sentences why this is an important activity.

Facilitator Notes:

This activity can be emotional for certain people. The students who find this emotional are often those students who do not know their heritage and those who are adopted. If a participant seems to be getting overly emotional, remind that person that they only have to reveal what they feel comfortable revealing.

Lesson Four Sustainable Development

Instructional Plan: To introduce the term of sustainable development to people; to help people become more aware of the philosophy and concept of sustainable development.

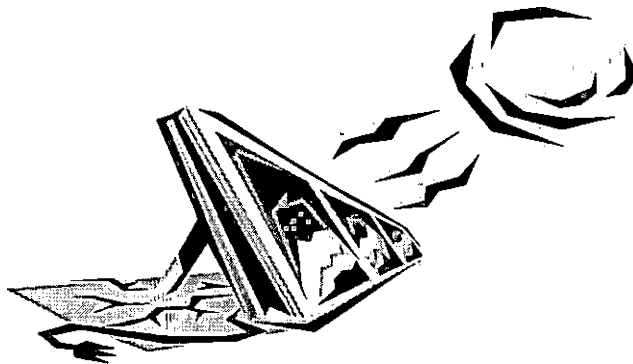
Level: Adult Intermediate Fluency

Length of Lesson: 2 hours

Objectives:

1. To introduce the term, sustainable development to people.
2. To help people understand the basics of sustainable development.
3. To show how sustainable forms of energy might be used on this planet.
4. To motivate people to be creative and develop new and different ways to adapt sustainable energy to everyday living.

Warm-Up: The teacher draws this picture on the board and asks if anyone knows what it means or what it is used for.



The teacher should wait a couple of minutes to see if anyone knows what this device is or what it signifies. If no one gives an explanation within one or two minutes, the teacher should explain that this is a device used to collect sunlight, an example of one form of sustainable energy. The teacher should explain what the term sustainable development means, and that solar energy would be an excellent example of sustainable energy.

The teacher should show that sunlight is transformed into energy that can be used to heat homes, for cooking

through specially designed solar ovens, to power electric generators that provide power for weather and communications satellites, or for radio and television equipment.

The teacher should continue to explain that solar energy is a wonderful form of sustainable energy. It is from the sun, so therefore it is free. It is an infinite amount of energy that people can tap into and use. It is a natural source and does not pollute. It can be adapted to power many different kinds of equipment, including automobiles.

Task Chain 1: Ways to use solar energy

1. Divide students into groups of four.
2. Have students brainstorm and come up with new, different, and creative ways to use solar energy.
3. Students will compare and show why sustainable energy is better than many other forms of energy, such as fossil fuel or coal.

Task Chain 2: Comparison of sustainable energy vs. other forms of energy

1. Divide students into groups of four.
2. Have students come up with different forms of energy that people could possibly use.
3. Have students make a comparison chart with three columns: one column of sustainable energy, one for the form of energy, and the third column for the characteristics.
4. Students will then take turns going to the blackboard and writing their comparison on the board. Each group will do this. The following is an example of what a chart might look like:

Form of energy:	Characteristics:
1. Solar	1. Free; does not pollute; can be used all over the world where the sun shines; can be adopted to run almost anything, including cars.
2. Water	2. Free; does not pollute; can be used where there are large or small amounts of water.

- | | |
|----------------|---|
| 3. Coal | 3. Costs money; pollutes in many different ways; could possibly cause diseases in people; scars the land; leaves a residue of soot. |
| 4. Fossil fuel | 4. Costs money; contaminates the air when burned and could possibly cause cancer when breathed over long periods of time. |
| 5. Wind | 5. Free; does not contaminate; can only be used in windy areas |

Final Assessment: *Deciding the best form of energy to use*
After the students thoroughly discuss all forms of energy, they will then vote on the best form of energy to be used in certain situations. This will include energy to be used in cars, homes, industrial usage, business purposes, and education.

Lesson Five
Case Study Simulation Model for the Application
of Sustainable Development

Instructional Plan: To apply the term of sustainable development to a real world situation; to help the student become more aware of how to communicate using the concept of sustainable development and to become aware of how this can be applied in their daily lives

Level: Adult Intermediate Fluency

Length of Lesson: 2 hours

Objectives:

1. To introduce students to the terms of case study and simulation.
2. To show students how sustainable forms of energy have accumulating benefits the longer they are used.
3. To allow the students to practice conversation using these new terms which will further develop their English-speaking skills.
4. To give the opportunity for students to develop their critical thinking about environmental issues and sustainability.
5. To help students understand how and when it becomes profitable to use and apply the principles of sustainable energy.

Warm-Up: The teacher holds a house in her/his hand and asks the students how much they think it would cost to operate the house for one month. It is an all-electric house.

Task Chain 1: *Introducing the students to a case study/simulation model of an all electric house*

1. List all the electric appliances they have in the house that runs on electricity.
2. Teacher states that on the average it cost the normal electric home \$200.00 per month to operate.
3. Teacher explains that over the cost of the next 10 years the expense to operate the house will be \$200.00 times 12 times 10 of which will total to \$24,000.00.

The average cost of a solar system for a normal home is \$10,000.00. Once the solar system is installed on the house, the California Electric Utility Companies will then install a two-way electric meter that not only measures the electricity the home owner buys from them, but also measures the electricity the solar system generates which is then fed back to the utility company. The average solar system can generate electricity for 80% of the home's electrical needs, which is \$160.00 of the \$200.00 a month electric bill. Therefore, once the solar panels are installed, the homeowner is only paying \$40.00 a month for electricity and the remaining \$160.00 a month can be applied to the cost of the solar system. Once the cost of the solar system has been paid for through this method, the \$160.00 that the homeowner would have spent for electricity, can then be spent on something else.

Task Chain 2: *Choices of how to pay for the energy it cost to operate a normal house*

1. Pay the \$24,000.00.
2. Is there some way to find a sustainable source of energy?
3. Give the students a handout that has the entire math about how to calculate at what point in time the solar panels pay for themselves.
4. Have the students then calculate how much money they will save for the next 10 years.
5. Have the students then talk about what they will do with the money they save over the following ten years by buying solar panels.

Final Assessment: *Writing a one page paper*

The students will turn in a written paper at least one page long explaining the benefits of incorporating a solar powered system to generate electricity in a house. Within this paper, the students will list how the solar powered house not only will benefit people, but also how a solar powered house will benefit the environment.

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