



# Sustainability - 'Thinking about Forever'

Below is the text of a letter sent to all heads of school recently as part of the TSHS Full School Sustainability Program. It is adapted from the UNESCO Teaching and Learning for a sustainable Future Program.

## What is Sustainability?

Sustainability means 'thinking about forever'. It means that in order to have a sustainable future, we must use our resources wisely to ensure that we do not end up with less in the future!

## A Process of learning

Educating for a sustainable future is not so much about a destination as about the process of learning to make decisions that consider the long-term economy, ecology and equity of all communities. Its goal is to build an enduring society. This involves learning how to anticipate the consequences of our actions, envision a sustainable future and create the steps needed to achieve the vision. This essentially requires society to meet 'the needs of the present without compromising the ability of future generations to meet their needs.'

In keeping with the emerging global ethic of 'interrelatedness and sanctity of life', the learning activities should reflect a dynamic balance among four dimensions and principles that underlie a sustainable future:

Dimension of Sustainability		Value Principle
Social Sustainability	↔	Peace and Equity
Ecological Sustainability	↔	Conservation
Economic Sustainability	↔	Appropriate Development
Political Sustainability	↔	Democracy

These principles mean that a sustainable future would be one in which people:

- Care for each other and value social justice and peace
- Protect natural systems and use resources wisely
- Value appropriate development and satisfying livelihoods for all
- Make decisions through fair and democratic means

Developing the capacity and commitment to apply these principles at the level of personal and family actions, and in decisions for local, national and global communities, is the task of educating for a sustainable future.

Taken from "*Teaching and Learning for a Sustainable Future*" CD United Nations Educational, Scientific and Cultural Organization.

### Examples of Learning for a Sustainable Future in Existing Subjects

#### Agricultural Studies

Agricultural education provides an excellent opportunity to teach about a number of very serious sustainability issues and problems, including food

safety, nutrition and health, as well as groundwater contamination from agricultural chemicals, accelerated soil erosion, threatened and endangered plant and wildlife species, energy shortages, and soil and water conservation. Many opportunities are available for students to have direct experiences in dealing with these problems.

### **Sample Learning Experiences:**

- helping farmers plant trees to prevent soil erosion
- joining or forming a Landcare group
- creating and maintaining a school farm,
- choosing species appropriate to local conditions
- researching the issues involved in farming native animals
- examining the relevance of wildlife corridors to sustainable agricultural management
- discussing the relationships between consumers and primary producers

### **The Arts**

The visual and performing arts can develop an aesthetic awareness and sensitivity to both natural and built environments. Artistic programmes should incorporate elements of both natural and built environments into learning experiences offered to students. The role of art as a means of communicating messages about a sustainable future to others should also be included. The arts are a powerful medium through which ideas and feelings about sustainability can be expressed and can be the medium through which bonds among people and with the Earth can be strengthened.

### **Sample Learning Experiences:**

- drawing and painting to sensitise students to the cultures of migrant families
- revolving conflicts through visual and performance arts
- building self-esteem, confidence and creativity as a means of empowering students to value their contributions to the community
- developing sensory skills and powers of observation
- composing, interpreting and performing music on global themes

### **Commerce and Business Studies**

Commerce provides opportunities for investigating the relationships between business, industry and sustainability. It can also help students learn how to manage resources carefully, to plan for the future, and to apply ethical criteria in financial decision-making.

### **Sample Learning Experiences:**

- investigating sustainable consumption
- examining the implications of sustainable development for an industry
- investigating the 'greening' of business and industry - comparing costs of food packaging, eg., paper vs. plastic
- investigating wants vs. needs (individual, family, school community, larger society)
- investigating a local business to compare 'use' and 'waste' levels, then devising a management plan to reduce these levels
- assessing operations of a local industry regarding 'costs' of pollution

### **First Language Studies -**

All aspects of language arts have an important role to play in education for a sustainable future. Many elements of sustainable futures can serve as excellent topics for creative writing.

There is also a wealth of national literature - poetry, prose, drama and so on - which deals with people's relationships with other cultures and with the planet in a variety of interesting, sensitive and thought-provoking ways.

#### **Sample Learning Experiences:**

- using drama, role-play and problem solving debates to express attitudes and perspectives on local issues
- researching, writing and publishing articles for papers, children's magazines, pamphlets, newsletters, journals, diaries
- discussing and debating issues of sustainability to develop language skills
- enjoying stories, novels, plays and poems from around the world on cultural themes
- using media studies programmes to investigate social justice films

#### **Second Language Studies -**

Programmes in second language learning provide excellent opportunities to develop a global orientation to studies of sustainability. This is particularly true at higher grade levels when current publications in the second language can be used as source material.

#### **Sample Learning Experiences:**

- using material on social issues for practice and development of language skills
- establishing overseas pen-pals
- conducting simple structured conversations around photographs depicting foods from other countries
- studying a local community issue as part of a language exchange programme
- investigating the variety of ways in which different cultures respond to and value the environment

#### **Health and Physical Education -**

Health education is one of the most important subject areas in which to deal with various aspects of sustainability. Both physical and mental health are dependent upon high quality natural and built environments. Topics such as hazardous chemicals in the home and the workplace, air and water pollution, the need for healthy recreation activities in both indoor and outdoor settings, and the relationship between noise and health are important to consider when planning a health education curriculum.

The development of recreational skills has become an important part of the physical education curriculum in recent years. Included in this emphasis are canoeing, backpacking, camping, fishing, and other outdoor activities. Physical education programs have become a means to deal with topics such as outdoor ethics, the pros and cons of hunting, consumptive versus non-consumptive outdoor activities, and the relationship of a quality environment to physical and mental health.

#### **Sample Learning Experiences:**

- implementing a waste minimisation program in the school and investigating the implications of this for human and environmental health
- investigating the school kitchen or tuckshop (eg., packaging, food additives, pesticides on food, organic products, nutritional value) and planning/implementing appropriate actions to enhance the school kitchen or tuckshop

- examining ozone layer and greenhouse issues and linking these to the associated human health and natural environment issues
- addressing a local issue which may have consequences for human health, eg., hazardous wastes, hospital waste management/incineration
- investigating the chemicals in the local water supply. Are the levels safe? Is there a level at which human health may be affected?

### **Home Economics -**

Home economics affords an opportunity to examine such issues as energy use and conservation, excess packaging and solid waste disposal, recycling, chemical food additives, hazardous chemicals in the home, and other lifestyle-related topics.

#### **Sample Learning Experiences:**

- investigating micro-climate, home design, landscape planning, and development of personal environments
- investigating the relationship between the health of the individual and the health of the environment
- investigating chemical food additives and hazardous chemicals in the home
- investigating the origin and production techniques of food, eg., organic produce; local vs. imported products
- cost, quality, consequences of cash crop production in the South
- investigating excess packaging, recycling, energy conservation and waste disposal

### **Mathematics -**

The resolution of sustainability issues is often dependent on the collection and analysis of data, and the communication of results. Mathematics is an important tool for this. Many mathematical concepts can be illustrated by experiences and examples from the natural, social, economic and political environments.

#### **Sample Learning Experiences:**

- understanding, estimating and calculating probabilities using demographic data
- calculating distances, lengths and angles using the natural and social environments
- collecting and representing data on water use for water conservation purposes
- developing basic mathematical skills through case study work on the local community
- auditing energy use by rating appliances, reading matters, calculating cost and savings

### **Manual Arts and Technology -**

Education for a sustainable future is concerned with exploring the consequences of the interactions between technology and resources. It is also involved with exploring issues surrounding the application of new technology.

#### **Sample Learning Experiences:**

- examining costs/benefits of energy efficient practices
- interpreting statistics on social trends and developments
- developing guidelines for the manual arts/technology department, eg.,

- disposal of toxic substances, buying/using offsets/recycled products, not buying rainforest timber, waste minimisation techniques
- investigating sources of timber, their uses and implications for conservation and development in the South
- examining the pros and cons of renewable vs. synthetic materials and resources investigating concepts such as conservation, waste minimisation, environmental design, environmentally friendly technologies, renewable and non-renewable resources

### **Religious Education -**

Education for a sustainable future provides opportunities for exploring the spiritual connections between people and between and nature. It is also concerned with the religious, moral and ethical implications of decisions affecting sustainability.

#### **Sample Learning Experiences:**

- considering personal responsibility to all living things
- exploring the lessons in ethics in indigenous stories
- investigating the perspectives of different world religions on issues such as nature, peace, etc.
- exploring the moral and ethical implications of political, social, and economic decisions
- exploring 'eco-spirituality'

### **Science -**

The study of science presents numerous opportunities to deal with sustainability topics. An important part of the content of education for a sustainable future involves sciences. For example, the emphasis on the development of problem solving skills and the study of the relationships between science, technology and society are very important. However, it would be wrong to equate education for a sustainable future with science as the humanities, social sciences and the arts as well as all other aspects of the curriculum also have key roles to play.

#### **Sample Learning Experiences:**

- investigating chemical changes to the atmosphere caused by human and industrial activity
- water quality monitoring and studying the effects of oxygen levels on life forms
- seed collecting, planting and propagating
- investigating the physics of energy production from renewable and nonrenewable resources and their environmental impact
- studying food webs and ecosystems and the impact of inorganic fertilisers, pesticides and waste products
- investigating the science of global warming
- inviting community resource people to talk about science issues

### **Social Studies -**

Since policy decisions at the local, state, national, and global levels are made within the contexts of social institutions and human values, the various social studies or social sciences (such as geography, history, political science, anthropology, sociology, psychology, etc.) can contribute greatly to the study of how alternative plans and actions can affect a sustainable future.

#### **Sample Learning Experiences:**

- investigating the variety of ways in which different societies respond to and value the environment
- using role play/simulation to identify the different interests in a development issue
- critically appreciating the role of values in conflicts about the future
- conducting a local area study to examine the relationships between built and natural environments
- investigating people's recollections of past land use by using oral history skills
- acquiring critical appreciation of the concepts of sustainable development, stewardship and conservation
- examining the rights and obligations of individuals, social and business organisations and governments in their international activities.