PRINCIPLE-BASED EDUCATION

PRINCIPLE-BASED GLOBAL EDUCATION: AN INSTRUMENT OF SOCIO-POLITICAL GLOBAL CHANGE

J. Russow, BA, M. ED, In Curriculum Development, Ph.D. Candidate,
(Sessional Lecturer in Global Issues, University of Victoria)
and D. White (Global issues Researcher and Educator)

Introduction:

For almost 50 years, the United Nations and member states of the United Nations, through international instruments — conventions, treaties, declarations, conference action plans, and General Assembly resolutions — have undertaken obligations to address the urgency of the global situation. This urgency is reflected in the continued degradation of the environment, the production of arms and the escalation of conflict and war, the violation of human rights, and the inequitable distribution of resources. From international instruments, such as the Universal Declaration of Human Rights, the Charter of the United Nations, the Convention on the Rights of the Child, the International Covenant on Civil and Political Rights, and Agenda 21— the action plan from United Nations Conference on Environment and Development, principles can be extracted and a complex of principles representing an expression of international concern about the need to address the urgent global situation can be discerned (see figure 1). This complex of globally adopted principles has become the foundation for a program called "Principle-based" [1] education.

Principle-based education works within a framework based on globally adopted principles related to preventing the degradation of the environment, the escalation of conflict and war, the violation of human rights, and the perpetuation of inequality/inequity and social injustice. This framework has been developed not from a particular value system of the teacher, educator, or institution, but is based on globally adopted principles over the period of the existence of the United Nations. The majority of countries of the world has signed, and/or ratified a significant number of legally binding international documents, and has adopted Conference statements and General Assembly resolutions.

In Principle-based education, complex and controversial issues reflecting the urgency of the global/local situation are discussed in the classroom or in the community within a conceptual principled framework.

In this paper, Principle-based education, as a means of examining difficult, complex and controversial issues is discussed, and the approaches in Principle-based Education are distinguished from various techniques from "the

---

[1] "Principle-based education" was introduced in 1985 in Russow, J. *A Method of teaching Human Rights*; and expanded in Russow, J and D White. "Global/local Issues through principle-based education". Since 1985 a set of principles have been extracted from the International instruments and compiled in a series of documents: *A Method of Teaching Human Rights (1985), "A content analysis of UNCED documents" (1992). "Principles of action from Agenda 21" (1992);* Draft working document: Global Issues: Environmental and social dynamics of Global Change (A Collection of Writings and documents - notes for course (1994); *Charter of Obligations: human rights, peace, environment, and equity (1995).* Principle-based education has been introduced in North America at the National Association of Research into Science Teaching (NARST), and internationally at the Annual General Meeting the IUCN (World Conservation Union) Commission on Education and Communication.

guise of objectivity" approach. Examples will be drawn from a wide range of literature including, industry, industry-front groups, "anti-socio-political global change" groups and global education curriculum developers.

Background for Developing Principle-based Education:

Global issues defy the traditional disciplinary boundaries, and are primarily interdisciplinary or transdisciplinary. Global issues can be introduced through the analytical processes in Principle-based education into any discipline or subject area. Aspects of Principle-based education are relevant to the Secondary School curriculum in Social Studies, Science, Global Education and Environmental Education, as well as in pre-service secondary student teacher programs. Many educators have reservations about addressing controversial issues in the classroom. Most issues that reflect the urgency of the global/local situation are, however, difficult, complex and controversial. Sometimes these educators present controversial issues in classrooms for unprincipled debate, and frequently choose to retreat to selected resolvable-issues for class projects.

This methodology is reflected in the following statement in a teacher's guide prepared by global educators:

> Think globally-act locally
> Based on the environmental assessment survey, and the assessment of local environmental projects, students can plan their own home or school improvement project. This could include working collaboratively with a local environmental enhancement group, an energy resource provider (e.g. your local or provincial hydro or gas utility), or other business or organization. Improvement projects could include the family, the class the whole school, or parts of the community. The project should be manageable in order to ensure success. Small action projects aimed at specific areas of concern (e.g. wastes paper in the school, the amount of garbage that could be recycled in the home, a specific habitat enhancement project etc.) will provide opportunities for students to be successful, to feel empowered and to see that changes are possible (Global Change and Canadians: A Teacher's Guide, 1993, p. 42).

Resolvable-issues for class projects are often those that are simple, easy to address and non-controversial. "Manageable" projects are often selected because of the perceived need of "empowering students", because "resolvability" is perceived to be the most effective way of empowering students, and because of the assumption that such projects are also easily 'managed' by the classroom teacher.

Perhaps what constitutes "empowering students" has to be revisited. Although simple, solvable and non-controversial projects are important and useful, they may not be the best way of empowering students particularly if they are the only projects undertaken. Involving students, particularly at the secondary level, in such projects may not be the best way of preparing students and pre-service teachers to face the complexity, uncertainty and insolvability of

local and global problems. Perhaps what is needed is for students to acquire significant knowledge and processes with which to work: complex thinking processes grounded in a conceptual structure of globally endorsed principles, and not simplistic projects devoid of principles.

Other educators have no reservation about introducing complex and controversial issues in the classroom providing that these issues are grounded in their own preconceived ethical, moral or religious framework. This framework has offers students a particular value base endorsed by the educator or by the institution, and thus may be perceived to be biased and to bring about indoctrination.

Other educators who are willing to deal with complex, and controversial issues in the classroom, may wish to avoid any perception of bias or indoctrination. These educators, wishing to avoid a perception of bias or indoctrination, may select programs which develop analytical processes without establishing a principled framework. These programs give students an opportunity to analyze difficult issues and clarify their own values related to these issues without a conceptual principled or ethical framework. Although these programs may be successful in clarifying students' positions their decisions may not be insightful or well-reasoned and may lack a principle basis for assisting students in making decisions.

Principle-based education attempts to enable students to examine complex controversial issues within a Principle-based framework which is independent from the belief system of the educator.

Elements of Principle-based Education

In Principle-based education the dichotomy between thinking and acting has been collapsed; it is recognized that local and global issues are interdependent both informing on and impacting upon each other. Thus, the students are encouraged to both think and act locally and globally. In Principle-based education, students are encouraged to investigate local issues within the framework of globally adopted principles, and global issues in their manifestation in a local context. Both local and global issues require thought and action.

Students are also encouraged to be involved in the dynamic between the two different meanings of "global change". The term "global change" appears to have different meanings depending on the disciplinary discourse. global change within socio-political discourse refers to socio-political actions to prevent environmental degradation, violation of human rights, and escalation of conflict and war. Thus, in a socio-political discourse to call for global change would be to call for changes in attitudes and behaviour to prevent ecological degradation, human rights violation and conflict and war escalation. The term "global change" has acquired, however, a specific meaning not within the single disciplines of science but within internationally constituted scientific bodies

dealing with changes in the biosphere. In the later context "global change" appears to refer to the change within the environment that leads to ecological degradation. Thus, in this segment of scientific discourse, rather than calling for global change, concerned citizens would call to prevent "global change".

The two meanings of social change could be describing as the difference between state and action. Global change in the context of the International research group of change biosphere could refer to the state ecological destruction whereas global change in a socio-political context could mean a resolve to act to prevent ecological destruction.

Approaches in Principle-based Education

In Principle-based education, principles related to preventing the destruction of the environment, the escalation of conflict and war, the violation of human rights, and the perpetuation of inequality/inequity and social injustice have been extracted from international instruments. The following are elements of Principle-based Education:

(a)   The urgency of the global situation is acknowledged,
(b)   international instruments proposed to address the
         urgency are examined,
(c)   the applicability of international principles to global and local
         situations is determined,
(d)   international solutions offered through these
         international instruments are evaluated,
(e)   the systemic constraints preventing socio-political
         constructive global change are delineated, and
(f)   the reasons for lack of compliance are examined.

Through being exposed to the urgency and through becoming aware that at the international level students will become aware that, at least at the international level there may be the political will to undertake to bring about the necessary changes. Educators can assist students in acquiring the knowledge, and language of instruments and principles of change.

Processes in Principle-based Education

Students are encouraged to examine, to explore and to appreciate the full complexity and interdependence of global/local issues within a framework of globally agreed to principles through engaging in a combination of the following analytical and reflective processes:

• Selection of issues to be examined
    • Examination of principle-diagram to determine if there is an international principle addressing the issue
        • Drafting of a principle from a complex of principles if no principle exists
            • Location of principle within "International principle diagram"
                • Statement of principle
                    • Exploration of principle,
    • Clarification of concepts and terms through ordinary language analysis
        • Determining criteria for compliance with principle
            • Establishing criteria for selecting issues to be examined
        • Determination of issues emerging within principle
            • Selection of actual cases related to principle
        • Application of principle to actual cases
    • Adjustment of principle in response to cases
  • Generation of hypothetical cases
    • Application of principle to hypothetical cases
    • Adjustment of principle in response to hypothetical cases
        • Clarification of principle
          • Determination of action to support principle
              • Engagement in action
         • Justification of action
        • Establishment of additional principles underlying action
        • Exploration of principled action
    • Determination of connection with other principles in "international principle diagram

Through participating in the above analytical processes, students and pre-service teachers can be stimulated to think, both critically and creatively, about difficult, complex and controversial issues within a principled framework. Students, and pre-service teachers are encouraged to investigate the components of these globally adopted principles, and to analyze the role of science and technology in the fulfillment or violation of these principles.

An essential part of principle-based education is to determine whether globally adopted principles exist to address specific issues. If a principle for the specific issue has not been enunciated in international instruments, then the students will be encouraged to combine existing principles to craft a new draft principle. If a principle does exist for a specific issue then the students will focus on understanding the principles, and on identifying their own opinions, bias, and beliefs inherent within the principle. When investigating a principle or document the students become engaged in (a) investigating the implications of these principles; (b) analyzing and synthesizing information on current issues in the light of these agreed to principles; (c) applying these principles to the examination of complex, difficult and controversial issues; (d) clarifying the role of science and technology in relation to these principles;(e) determining whether these principles have been incorporated in national and local law; (f) identifying the systemic constraints preventing the adherence to these principles; and (g) proposing a range of possible actions to address issues arising from the non-fulfillment of these principles.

In Principle-based education, the principles are drawn not from an educator's particular belief system but from globally adopted principles. In this paper, the approaches in Principle-based education will be distinguished from techniques used in what I have referred to as "the guise-of-objectivity" approach.

Sources of Guise of Objectivity

There are a number of sources of information that reflect the guise-of-objectivity approach. One source is from what could be described as "anti-socio-political global change" groups; Groups such as "Reason", Pacific Legal Foundation (PFL), CFACT (Committee for a Constructive Tomorrow), CATO Institute, Heritage Foundation, Institute for Justice etc., profess to be objective but adhere to a complex ideological program. This program, for example, has classified the concern about ozone depletion as "the hole in the ozone scare" or "acid rain as a hoax". In addition, this program advocates different combinations of the following elements: manifest destiny, limited government control, individual liberty, private property rights, strong national defense policies, pro-military expansion, free competitive enterprise, expanded American influence, uncritical nationalism, school choice, privatization, market-oriented health care, deregulation, racism, anti-Semitism, and Christian fundamentalism. These groups are powerful with a list of funders from industry

and of advisers from main-line universities such as Harvard, Cornell, University of Chicago, Duke, Berkeley University of Illinois, Pennsylvania State, Rutgers etc.[2]

Other sources of information that reflect the guise-of-objectivity approach are from non-profit associations that are set up by industry for the purpose of developing educational materials; these materials are often developed in conjunction with, sanctioned by and distributed by acceptable institutional. For example, British Columbia. Forestry Association, whose Board of Directors comprise primarily forest company representatives along with key government representatives, and the occasional educator has developed educational material, which have been in some cases circulated unsolicited throughout the school system. A complementary source of information is from the "Round Table Movement"[3]. Vested interest economic values can be explicitly or implicitly introduced. In the Round Table movement, industry representatives, as members of these legitimately constituted bodies, could be directly involved in determining the philosophical underpinnings of education. For example, in Canada, the President of an Oil company was the chair of the National Round Table on Education for Sustainability.

An additional source can be from global educators themselves. Often in global education, in the guise of objectivity issues are perceived to reflect different values, and because of this perception, all opposing views or "multiple views" are sometimes considered as being equally legitimate. In the guise of objectivity students are often encouraged to explore positions which may contradict principles endorsed by the global community. They are often encouraged to explore contradictory positions and search for the best or better view or develop a new view or course of action which could be unprincipled in terms of previously adopted international principles.

---

[2] For further discussion, see papers by Tim Boston, and manuscript in progress on Boston, Knelman F., and J. Russow "Anti-socio-political-ecological thought", available on disc from authors.
[3] Ronald Doering, Executive Director, National Round Table on the Environment and the Economy, defined the Round Table as a movement:
"This is a fairly accurate description of the Canadian round Table movement ... (p.11)

Principle-based Education Approaches in Contrast with techniques of "the Guise of Objectivity" Approach

Generally, opposition to Principle-based education comes from "the "the guise of objectivity" movement — a wide range of techniques from industry, industry front groups, "anti-socio-political global change" groups, and some global educators. These techniques have achieved some currency, and it is important to distinguish the approaches of the Principle-based education from the techniques of the "the guise of objectivity" movement. The following eight techniques are selected from a content analysis of techniques in various documents which reflect "the guise of objectivity" approach.

1.   "Affirming yet denying scientific consensus" technique
2.   "Cooption of legitimate terms like "both sides", "multiple sides", "multiple perspectives" technique
3.   "Fragmenting, simplifying, making manageable and controlling complexity" technique
4.   " Expressing concern yet not fully addressing concern" technique
5.   "Decrying the urgency while continuing to practice as usual" technique
6.   "Elimination of concern and resolve through "good news" stories"
7.   "Debate the necessary —ignore the categorical imperative" technique
8.   "Categorizing examination of the urgency of the global situation   as leading to doom and gloom technique" technique

A.   "Affirming yet denying scientific consensus" technique

This first technique recognizes that "where consensus has been reached it should be explained", and yet there is encouragement to engage in an activity which counteracts what has generally become scientific consensus. This technique is present in the global education publication, *Global Change: A Teacher's Guide*. On the cover of the Teachers Guide is the following statement of commitment to objectivity, and to explaining where "consensus has been reached":

> 'Global Change and Canadians' is intended for a senior high school through adult audience. It objectively tackles such topics as ozone depletion, climate change, sea level change, global economics, energy ..., to name a few. In addition to providing readers with the most recent statistics and theories behind these topics, the book explains where consensus has been reached and where uncertainty still exists (Global Change and Canadians: A Teacher's Guide, 1993).

This commitment to objectivity sets the tone for a Teacher's Guide reviewed by esteemed scientists across Canada, and approved by the prestigious Royal Society of Canada, and thus, there could be the presumption that the Guide would respect the stated commitment to "objectivity". However, in the section on climate change, the teacher is instructed to ask students to consider the positive or negative benefits of global warming:

> Global Warming — A good thing
> Ask the students to consider possible positive benefits of global warming, as well as negatives. The students could create a two-column table with one column listing possible positive consequences from global warming and the other negative ones. Remind students that all suggestions are valid during brain-storming (Global Change and Canadians: A Teacher's Guide, p. 29, 1993).

Although there may be differences of opinion about the uncertainties of the extent, the nature, and the degree of global warming, there is generally scientific consensus about the negative impacts of climate change. In a Harvard based eight country survey projects on "Social Learning Related to Climate Change" there was little evidence of the position that global warming could be beneficial. The position that global warming could be beneficial was proposed in Northern Climates up to the mid 70's, and has generally been discounted ever since by scientists who do not have a vested interest in perpetuating the anthropogenic causes of greenhouse gas emissions.

The position of there being potential positive benefits has been discredited within the responsible scientific community. The position, however, can be found extensively in "literature" put out by industry generators of CO2, by industry front groups and by the "anti-socio-political global change" groups. For example, the positive possibilities of global warming have been advocated primarily by groups such as the "Right wing think tank" (CATO institute), in their

publication "Sound and Fury: The Science and Politics of Global Warming" by Patrick J. Michaels:

> The popular vision of an approaching apocalypse caused by global warming has no scientific foundation .... and that most of the warming is at night when it produces benign effects such as longer growing seasons (CATO, 1993, p.3).

Serious consideration has to be given to the value of having students finding positive aspects to a position which is no longer debated by serious non-vested interest scientists.

Principle-based education approach distinguished from this technique

In Principle-based education, when examining significant global issues, students will examine international statements from recognized experts. In the particular case of climate change what would be examined would be the relevant international instrument—the Framework Convention on Climate Change. This instrument was drafted in consultation with an international body of scientists, specializing in Climate Change, was signed in June1992 by most of the member states of the United Nations, and came into force in March 1993. The Climate Change Convention affirms the urgency of Climate change whose adverse effect were deemed to be of common concern:

> Acknowledging that change in the Earth's climate and its adverse effects are a common concern of humankind,
> Concerned that human activities have been substantially increasing the atmospheric concentrations of greenhouse gases, that these increases enhance the natural greenhouse effect, and that this will result on average in an additional warming of the Earth's surface and atmosphere and may adversely affect natural ecosystems and humankind,
> Noting that the largest share of historical and current global emissions of greenhouse gases has originated in developed countries, that per capita emissions in developing countries are still relatively low and that the share of global emissions originating in developing countries will grow to meet their social and development needs,
> Aware of the role and importance in terrestrial and marine ecosystems of sinks and reservoirs of greenhouse gases,
> Noting that there are many uncertainties in predictions of climate change, particularly with regard to the timing, magnitude and regional patterns thereof (Framework Convention on Climate Change, 1992).

In Principle-based education the following recommendation has been endorsed:

> Given that "corporate scientists" have been involved in developing educational material that has not been sufficiently reviewed and that is prepared for the sole purpose of promoting particular corporate interests, we recommend that a body of non-vested interest scientists review materials for inclusion in school libraries

and curriculum, and conduct workshops for teachers on the distinction between science and technology and between 'juried or credible' science and pseudo-science. (Report. from Ozone Depletion and Ultraviolet Radiation, Conference, 1994).

Global warming is an extremely difficult abstract concept. How can high school students accurately distinguish bias from accurate or good science information? Such opposing arguments, as proposed in the Teacher's Guide, may only leave the students frustrated or result in the students accepting false information or generating unreasoned conclusions.

B. "Cooption of legitimate terms like "both sides", "multiple sides", "multiple perspectives" technique

This second technique involves the recognition that even though one side or perspective is deemed to be the cause of destructive global change, the cause of destructive global change should be given legitimacy, through inclusion as a side worthy of consideration. This technique usually coopts the legitimate language of fairness by using expressions such as the need for "both side", "multiple perspectives", "multiple points of view", and "balance".

There is a long history in education of presenting different sides of issues, and opposing the indoctrination of students. In education this concern for presenting both sides is a genuine concern based on a fundamental sense of fairness and of integrity. Unfortunately, the advocating of both sides and many sides has been often adopted by "anti-social-political global change" groups. For example, the need to present both sides have been used by white supremacy groups to justify the dissemination of hate literature. John Stewart Mill—a strong critique against intolerance— has been used by these groups to support the right to be intolerant. Thus, the one side, the right to be free from the dissemination of hate literature has been balanced with the other side, the right of freedom of speech to disseminate hate literature.

The dissemination of hate literature is thus justified through freedom of expression. The phrasing of this issue in this way often brings about the issue being presented as a conflict between two equally tenable rights — the right to be free from the dissemination of hate literature and the right to freedom of speech.

This technique is also used to justify the continued degradation of the environment. Presenting different sides of an issue has become a useful tool used by industry to prevent socio-political change. For example, in 1975, a logging company printed in their publication "How to become a more sophisticated saboteur in Groups, the following directives:

For every proposal set up an opposite, and conclude that the middle ground (no motion whatever) represents the wisest course of action. If this does not work, say that we must not move too rapidly.... Point out that an attempt to reach a conclusion

is only a futile "quest for certainty" Try to point out all sides of every issue, thereby hiding your own indecisiveness under a blanket of objectivity. This is sure to decrease popularity so, as a safeguard, disclose that there are all sorts of "dangers" in any specific formulation of conclusions, dangers of exceeding authority or seeming to, of asserting more than is definitely known, and so on. (MacMillan Bloedel, 1975).

The "both sides" (or multiple points of view) technique is often used regardless of the legitimacy of the "sides", and it allows for the introduction of arguments and concerns which would otherwise not be included. For example, the technique is used to advance the concern not about the impact of industrial practices on the environment, but about the impact of environmental rulings or regulations on the economy. This technique is advocated by an anti-socio-political global change group in the following statement:

We cannot continue to allow only one side of the wildlife issue to be heard. In a brief but powerful 9-page report, the wilderness Impact Research Foundation (WIRF) outlined a plan by which wise-use industry associations could and should work together to combat the 'green agenda' that reaches the public very directly (Blue Ribbon Magazine,1994).

These "techniques" have been effectively used to justify ecological global change (ecological degradation) and to discourage socio-political-ecological global change (strong regulatory environmental measures to prevent ecological degradation).

In the *Global Change: A Teachers Guide* there is also a call for the need to see the issues from many viewpoints:

Through Global Change and Canadians and this Teacher's Guide the enormity and complexity of global change issues has been stated again and again. Students and individuals need to be able to see the issues from many viewpoints. They need to have a clear understanding of the impact that environmental and economic change can have on local and global systems on the economy and on individuals (Global Change and Canadians: A Teacher's guide p. 45).

There appears to be a presumption that presenting the complexity of the global situation is equivalent to the presenting of "many sides". In the *Global Change and Canadians* text the following statement this equivalence is presented:

There is a danger associated with producing a primer document such as this because a large number of very complex topics must be clearly explained in very few pages. The danger is that issues may be presented in an over-simplified or black-and-white fashion. Although we have attempted to present as many sides of each issue as space would allow, it is inevitable that some readers will feel that the issues have not been fairly or adequately presented (Global Change and Canadians, 1993, preface [text]).

A distinction, however, could be made between the "many sides of an issue" which reflects the "complicatedness" of an issue where vested interest is involved and the "many aspects of an issue" which reflects the complexity of the issue, where the interdependence of the different facets of an issue is examined (this distinction between "complicatedness" and "complexity" is explored further in Figure 2 and Figure 3 on Pages 12 and 13).

Principle-based education approach distinguished from the "cooption of legitimate terms like "both sides", "multiple sides", "multiple perspectives" technique

In principle-based education, there is always an attempt to examine the complexity and interdependence of issues and how each issue impacts on the others. Students are asked to strive to determine ways in which all facets can concurrently be considered and in which the interdependence of aspects can be changed incrementally (interdependent incrementalism). In Principle-based education, students examine different aspects of the problem and not the vested interests inherent in a problem except when researching systemic constraints which prevent socio-political-environmental change. A distinction is made between interests being examined to inform the problem and interests being incorporated to influence the decision-making process. This distinction was phrased in a different way in a 1984 Science Council publication entitled "Regulating the Regulators"; the distinction was between a reasoned outcome and a negotiated outcome. By examining the issues through a reasoned outcome perspective, the students will not be called upon to advocate a particular "interest" and the decision-making process will not be compromised.

 For example, in a developed country, the head of a resource company proposed that the resource company could offset its CO_2 emissions (carbon budget) by purchasing carbon sinks (rainforest in a developing country). This proposal could be considered to be of value from a both sides point of view: the resource industry would be able to continue to produce CO_2 and the country's emissions would be offset by the carbon sinks; the developing country would be able to make money for the forests, and the forests would be preserved. If this same proposal were examined through Principle-based education, then the developed country's actions would be examined within its obligations under the Framework Convention on Climate Change, and within its commitment to not do anything on indigenous lands that would cause environmental degradation or be culturally inappropriate (Chapter 26, Agenda 21, 1992). Encouraging taking different sides representing vested interests often results in students having to compromise principles.

Principle-based education moves away from the current roundtable model of a "multistakeholder arena of competing vested interests". This roundtable model brings together various sectors representing competing interests and various "perspectives", "viewpoints", or "sides" within a consensus

decision making process model. The "roundtable" model is similar to the "both sides" approach in Global or Environmental education, and has been adapted by some teachers in role-playing exercises. Students are often called upon to assert a particular vested interest position which compromises and detracts from the actions required to bring about the needed local and socio-political constructive global change. The emphasis is on determining not a reasoned outcome but a negotiated outcome. In a Principle-based education, rather than a round table model the mode of decision-making is based on international obligations, and the teacher and the students reflect, not particular vested interests, but a range of expertise and experience relevant to the discussion of the issues.

In Principle-based education, the decision-making process is based not on the "complicateness" of vested interest assertion, but on the complexity and interdependence of issues. The decision-making process thus draws upon areas of experience and expertise necessary to come up with proposals to address the need: for ensuring socially equitable and environmentally sound development; for attainment of peace; for the achievement of equality, equity and social justice; for fulfillment of fundamental rights including the right to clean air, water, shelter, health, and education; and for the preservation, conservation and protection of the environment.

In addition, in Principle-based education, a distinction is made between "complicatedness"— many vested interest sides and "Complexity"— many different aspects.

"Complicatedness" arises when it is necessary to accommodate competing generally incompatible vested interests, reflected in accommodating "many sides". For example, the many sides associated with the nuclear industry:

COMPLICATEDNESS:
• side 1; uranium miners concerned about loss of jobs
• side 2: uranium industry concerned about profits from uranium for their
      shareholders
• side 3: government concerned about tax revenue
• side 4: AECL concerned about the use of Uranium for CANDU reactors
• side 5: Environment industry concerned about job creation related to
      research contracts for disposing of spent fuel
• side 6. Member of NDP party concerned about party commitment to   phase
out uranium mining
• side 7: Environmental group calling for the end of the mining of uranium
• side 8: Peace group concerned about the linking of Uranium mining to
      nuclear arms   production
• side 9: Local community store owner concerned about his business   once
the uranium mine is mothballed.

Figure 2: Presenting Complicatedness

The solution that might result from this deliberation process could be the following: to continue the mining of uranium but establish a policy that no Canadian uranium will be used in any nuclear arms. This solution can be hailed as a success because none of the vested interests are satisfied; yet through the principle of "fungibility" — the bank concept of not being able to determine the destination of the investment dollar, there is no way of guaranteeing that Canadian uranium will not find its way into nuclear weapons (Personal Communication, Knelman, 1995)

The position of advocating, the "many sides" or "complicatedness" approach is a position often presented by industry so as to ensure that their particular vested interest can be given an aura of legitimacy. Those concerned with socio-political-ecological global change advocate not necessarily a many side but a complex approach taking into consideration the different aspects of the problem rather than the vested interests related to the problem.

"Complexity" on the other hand involves the presenting of multiple facets of an issue in a non-vested interest way. For example, in Figure 3 "Complexity".

COMPLEXITY:
• co-existence of highest tenable principles drawn from different   states
• respecting of human rights, social justice, and equity
• affirming the right to food, shelter, health care and education
• attaining peace through disarmament, and reduction of the   military budget
• establishing strong regulations to drive industry to come up with innovative ecologically sound techniques
• setting up a global even playing field
• promoting best ecologically sound techniques (BEST)
• not transferring harmful substances to disenfranchised or   vulnerable areas or states
• reducing third world debt and transferring revenue to socially equitable and environmentally sound development
• carrying out a life-cycle analysis

Figure 3: Presenting complexity

C. "Fragmenting, simplifying, making manageable and controlling complexity" technique

Some educators recognize complexity, but then stress the need to simplify, make manageable and control complexity. This third technique involves acknowledging of the importance of complexity and then proceeding to ignore or avoid complexity in the following ways:

(i) By calling for the need to simplify complexity:

1. Educational significance
... to simplify the complexity of the issues and to find ways to give students the opportunity to think critically about them. (Global Change and Canadians: A Teacher's guide p. 1)

(ii) By reducing complexity for resolvability:

Workable solutions. Did the students choose to develop the round table around an environmental or economic issue which led to a resolution? Was the complexity of the issue too involved to be adequately and appropriately solved in the Round Table process? Students and teacher/facilitators should evaluate the process and the issue used as the basis for the Round Table. Students need to be able to make positive gains in their efforts to resolve conflicts and solve environmental or economic problems (Global Change and Canadians: A Teacher's guide p. 48.).

(iii) By seeing manageable projects, and to be successful:

Think globally-act locally
...The project should be manageable in order to ensure success. Small action projects aimed at specific areas of concern (e.g. wastes paper in the school, the amount of garbage that could be recycled in the home, a specific habitat enhancement project etc.) will provide opportunities for students to be successful, to feel empowered and to see that changes are possible (Global Change and Canadians: A Teacher's Guide p. 42).

Principle-based education approach distinguished from the "fragmenting, simplifying, making manageable and controlling complexity" technique

In Principle-based education there is recognition of the necessity of examining the complexity and interdependence of issues, and that one of the reasons there may have been a failure to solve urgent global problems is because of the perception that issues must be fragmented into component parts. It may be in many industries' best interest to continue to perceive these interests as being fragmented because each industry can offer a solution to one aspect of the problem while contributing to another aspect of the problem. For example, the nuclear industry offers a solution for climate change while causing the problems of storage and disposal of wastes, and proliferation of weapons-associated technology.

In Principle-based education, students are encouraged to participate in the complexity and interdependence of issues such as respect for human rights, fulfillment of social justice, equality and equity, achievement of environmental protection, preservation and conservation, and the attainment of peace.

These issues are perceived as interdependent facets of a potentially viable solution. It is no longer possible to consider any of them in isolation: threats and impacts of war; the use of ecologically unsafe and unsound energy; the loss of ecological integrity; the disposal of toxic and hazardous wastes, including nuclear waste, the disregard for intergenerational and gender equity; the

limitless exploitation of non-renewable resources, the ignoring of health issues related to population and environmental degradation; the perpetuation of the current model of development; the inequitable distribution of resources; our society's over-consumption of resources and the companion waste and pollution, the transfer of ecologically unsound and culturally inappropriate technology from north to south etc. all have to be considered concurrently.

In Principle-based education, students work with a large diagram in which the interdependence of principles are displayed (International Principle Diagram). Students are also encouraged to draft their ideas in large diagrams so that they can appreciate the complexity of the interdependent aspects of an issue. For example, students may be asked to draft diagrams of life cycle analysis of the use of a product in order to understand the full complexity and interdependence of aspects within the use of the product. (See, Figure 4. Diagram of "Life Cycle Analysis of Uranium")

D." Expressing concern yet not fully addressing concern" technique

This technique involves the expressing of deep concern, while eliminating, minimizing or ignoring actions which could address the concern.

In both a *Global Change and Canadians* Text and the *Global Change and Canadian: A Teacher's Guide* there is an expression of concern about both over-population and about over-consumption:

> Exponential growth in human population, rapid technological advances, and significant increases in both material and energy consumption have put humans in a position where their daily activities are altering entire global systems such as the atmosphere and the oceans at a rate that has never before been experienced on this planet ... (Global Change and Canadians, 1993) TEXT, and in the Global Change and Canadians: A Teachers Guide,1993, p2).

Yet in the *Global Change and Canadian: A Teacher's Guide* when a further reference made to resource consumption the reference is bracketed, which suggests less importance. When an action or class project is suggested, the need to reduce resource consumption is absent:

> The growth of our population is a serious problem. Unless we manage to control population growth in developing nations (and reduce resource consumption of the developed nations) global change consequences will be severe. Should Canada insist that a country adopt family planning and birth control policies before becoming eligible for aid programs? (Global Change and Canadians: A Teachers Guide, 1993 p. 24).

Would it not also be appropriate to add "should states in the South trade with Northern states, if Northern states continue their current rate of over-consumption of resources?

Principle-based education approach distinguished from the" Advocating concern yet not fully addressing concern" technique

In Principle-based education there would be recognition of the concept "interstate transfer" which affirms that solutions lie in the South as well as in the North, and discourages and prevents the transfer of technologies that have adverse effects on the environment or on human health. The following principle was enunciated in the Rio Declaration:

> States should effectively cooperate to discourage or prevent the relocation and transfer to other States of any activities and substances that cause severe environmental degradation or are found to be harmful to human health (Principle 14, Rio Declaration, UNCED.)

There would be a discussion about the need to redefine development in equitable and ecological terms based on global obligations and commitments. The students would examine and analyze strong principles that have been extracted from United Nations General Assembly Resolutions, multilateral documents, and specifically recent documents such as the International Conference on Population and Development (1994), World Conference on Human Rights (1993), Conference on Social and Human Development (1995), UN Conference on Women: Development, Equality and Peace, instruments, documents from the South Centre etc.

E. "Decrying the urgency while continuing to practice as usual" technique

This technique involves the enunciation of strong statements which reflect the urgency of the global situation but then questions the legitimacy of changing what has been generally deemed to be a contributing cause to the urgency of the global situation.
This technique displays language of change while continuing to practice as usual. The urgency of the global situation is acknowledged, but the role of the current pattern of development is diminished. The causes of ecologically destructive global change are put into question. This technique is evident in the following statement where the advisability of changing the current "a pattern of development model is questioned:

> Chapter 5 discusses the effects of global change on society in terms of population growth, poverty, resource consumption patterns, economic production, health, indigenous cultures and international relations. ...in many instances we are not even certain that altering patterns of development may not cause more serious damage economically or environmentally. (Global Change and Canadians: A Teacher's Guide, p. 40).

If the authors are questioning whether we should move from the current model of development, the authors are out of sync with the current global assessment of the present model of development.

Principle-based education approach distinguished from the "Decrying the urgency while continuing to practice as usual"

In Principle-based education the urgency of the global situation as expressed in international documents is decried along with the recognition of a need to change the current model of development that is perceived to be in many cases responsible for the urgency:

In Agenda 21, UNCED there is recognition of the urgency:

> 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 ecosystem *on* which we depend for our wellbeing (Agenda 21, UNCED, 1992, preamble)

and there was an affirmation of the responsibility to change the current development model:

> Erosion, degradation, deforestation and desertification have led to increased land degradation, and the creation of reservoirs has, in some cases, resulted in adverse effects on ecosystems. Many of these problems have arisen from a development model that is environmental destructive and from a lack of protection. Ecological and human health effects are the measurable consequences (Agenda 21, UNCED, 1992, s. 18.45).

F. "Elimination of concern and resolve through "good news" stories" technique

This technique involves an agent being involved with causing harm and then declaring that the tentative rectification of harm is a success. This technique may reduce the resolve to make the difficult but necessary changes. Many good news stories suggest that ecological "global change" is being prevented.

In Choices, published by the Forest Alliance of B.C.—an "industry front group"—good news stories abound. In many cases these news stories involve a cycle of rectification of error, and a renewal or mitigation of problems already caused by industry rather than calling for prevention. The "good news " strategy is particularly common in the green-house gas emissions, ozone depleting, resource extraction and production of toxic-hazardous-atomic wastes industries. The "good news" strategy is also common in "anti-socio-political global change" group literature. This strategy does not blame the agents of the socially or ecologically destructive global change, but focuses on the apparent

rectification of the problem, and is evident in the industrial "clean-up activities" such as "cleaning up" after clear-cutting:

> British Columbia's reforestation programs have come a long way. Last spring, we planted the three billionth trees. ... the news wasn't always that good (Forest Alliance, Choices, Vol. 2 #2).

In the Global Educators, Teachers Guide the authors cite examples of good news stories such as those resulting from industrial clean-up:

> The subject matter also tends to be presented in a 'gloom and doom" context. To dispel any potential anxiety, teachers should try to focus on the" good news" stories of environmental renewal [e.g. the greening of Sudbury, Ontario, the clean-up of Lake Erie, the River Thames in the United Kingdom, etc.) and local environmental heroes... (Global Change and Canadians: A Teacher's Guide, p. xi).

Often mitigation or the environmental enhancement is presented as the only acceptable project. This practice fosters the "delusion of resolvability", and the importance of enhancement or renewal projects as solutions is advocated:

> This issue of Choices [a publication] outlines some of the real advancement that has been made in the field of reforestation, and shows that if enough resources and energy are applied to a problem, it can be solved (Forest Alliance, 1993).

Similarly, in the *Global Change, A Teachers Guide*, students are encouraged to become involved in environmental enhancement projects where they clean up society's mess:

> The plan of action could include becoming involved in local environmental enhancement projects as well as developing an action plan for cleaning up the school the home and the community (Global Change and Canadians: A Teacher's Guide, p. 11).

This technique may weaken the resolve to make the difficult but necessary changes.

Principle-based education approach distinguished from "Elimination of concern and resolve through "good news" stories" technique

In Principle based education students are encouraged to examine the evidence to support the need for anticipation, precaution and prevention, rather than mitigation. There have been many calls for the global community to move from condoning mitigation and rehabilitation to endorsing prevention and anticipation. The preventive approach rather than the mitigating technique appears to be advocated in many recent international documents. For example, this statement from the United Nations Conference on Environment

and Development supports prevention rather than costly rehabilitation measures:

> A preventive approach, where appropriate, is crucial to the avoiding of costly subsequent measures to rehabilitate, treat and develop new water supplies (Agenda 21, UNCED, 1992, s.18.45).

In addition, in the UNCED documents there is a call to invoke the precautionary principle and to take into account the cost of any ecological consequences:

> where there are threats of serious or irreversible damage, the lack of full scientific certainty shall not be used as a reason for postponing measures to prevent environmental degradation (combination of a number of versions of the principle in the UNCED documents)

> Ensure that relevant decisions are preceded by environmental impact assessments and also take into account the costs of any ecological consequences (Agenda 21, UNCED. s 7.42)

Undoubtedly it is important to make students aware of "Good news", and the real solutions involving anticipation, precaution, and prevention. There is a distinction between "good news" stories that mitigate problems and the real solutions that prevent problems. Good news stories that mitigate problems often have been used as a rational to continue the original problem, and often displace funds that could be transferred to developing prevention technology

It is also necessary to be involved in enhancement projects, and undoubtedly enhancement projects can involve more than "clean-ups. However, often involvement in enhancement projects diverts attention from the role played by agents of socially and environmentally destructive global change.

G. "Debate the necessary —ignore the categorical imperative" technique

This technique first acknowledges the need for strong action and then proposes that globally recognized needed action needs further debate or requires more research. The need to debate issues that have already been agreed to by consensus in some cases is legitimate because there is always a reason to challenge conventional wisdom. This technique, however, is often advocated and used effectively by "anti-social-political global change" groups. These groups, apart from seeing the positive aspect of global warming, and chemical pesticides also decry "the hole in the ozone scare" and the "acid rain hoax".

The presence of this technique in the "anti-social-political global change groups is understandable, but the presence of a similar technique used by global educators is disturbing.

In the *Global Change and Canadians* text a long list of strong action statements is made:

> Taking Action
> Specifically, international action must occur in the following problem areas;
> • *debt in the developing countries:* The planet cannot afford to continue extracting scarce natural resources simply to repay debt....
> • *increased foreign aid to developing countries*...
> • *Economic and living standards in developing countries must improve, but the negative environmental consequences of prosperity must be avoided:* ...
> • *Rich countries must consume a lower share of the Earth's resource*...
> • *All nations of the world, but particularly the developed countries must vigorously promote research* which will significantly improve our understanding of the "interactive physical, chemical and biological processes that regulate the total Earth system.... 44).

In the corresponding *Global Change: A Teacher's Guide* the above list is referred to but rather than consider the urgency conveyed in the statements, the students are asked to debate the issues in the statements:

> Debate the Issue
> Have students choose a topic from the international action list in Global Change and Canadians (p44) and develop arguments for and against the action from a Canadian point of view. ...: Global Change: A Teacher's Guide, p.43).

Principle-based education approach distinguished from the "debate the necessary —ignore the categorical imperative" technique

In principle-based education, there are numerous international statements and obligations that support the statements in the *Global Change and Canadians* text. The students may then examine what would be the necessary socio-political-environmental global changes that would be necessary to bring about the needed actions proposed in the text, and what might be the nature of the systemic constraint that prevents the fulfillment of these obligations.

H. "Categorizing examination of the urgency of the global situation as leading to doom and gloom technique" technique

In the *Global Change: A Teachers Guide* there is a suggestion that students will move beyond simplistic answers if they are helped to "develop positive approaches", and there also appears to be an assumption that creative thinking results from limiting students to these positive approaches:

> Teachers must challenge students to become creative thinkers who move beyond simplistic answers. Above all invite students to develop positive approaches instead of becoming immersed in pessimism and gloom, or awash in cynicism lead them to find and advocate a positive alternative approach (Global Change and Canadians: A Teacher's Guide, p. xvii).

Rarely is an analysis presented to support the claim that cynicism, gloom or pessimism would necessarily arise as a result of revealing the urgency of the actual global situation, and of addressing larger socially and ecologically destructive global change. It could be that by revealing the urgency, and by giving students the knowledge about international instruments that are in place, the students could be less pessimistic. In addition, even if cynicism, gloom or pessimism does occur, when students become aware that states have not lived up to previous obligations, there is no evidence to indicate that cynicism, gloom and pessimism are attributes to be avoided. It may be, however, that thinking is stimulated by exposing students to the urgency of the global situation, to the instruments that have been designed to address the urgency, to the systemic constraints preventing states from living up to the obligations contained in these international instruments, and to the need for action to address the urgency by seriously undertaking to change the current development model. It could be that exposing students to internationally agreed-upon principles students will in fact be empowered and less pessimistic.

CONCLUSION

In this paper I have proposed that Principle-based education could be a means of introducing complex and controversial issues into the classroom. One of the problems in discussing principles is that often the discussion of principles in the classroom appears to suggest the possibility of indoctrination. It is for that reason, in that I have distinguished the approaches in Principle-based education from other techniques used in materials that are purported to be objective and beyond bias.

I have thus tried to show that Principle-based education, because it is founded on globally adopted principles, can be distinguished from programs where the values of the educators or institutions are inculcated in the students, and from a set of techniques that reflect "the guise of objectivity".

There appears to be considerable interest in this approach at the international level. However, there is some resistance locally about relying on UN documents as evidenced in a recent comment by Dr. Roland Case:

> It is not clear how teachers will avoid the sort of controversy that Russow says they
> are so afraid of simply by relying on UN - embedded principles. After all, some
> members of the public will violently oppose many of these principles. For
> example, in the US there was considerable public backlash against globalism
> ("one world thinking") that is, the use of international principles and values to
> decide US policy.
> Simply because most nations have endorsed a policy, does not make it ethically
> right...

It is stated that the principles embedded in the UN documents have been adopted by majority of countries in the world. This is true for many UN documents, but not all. Significantly, the US is

not a signatory to key UN documents .... (Roland Case, personal communication in response to this paper).

REFERENCES:

Canadian Global Change Program. (1983) "Global Change and Canadians",
        Ottawa: Royal Society of Canada.
Canadian Global Change Program (principal author, Dr. Milt McLaren. (1993). "Global
        Change and Canadians"—A Teacher's Ottawa: Royal Society of Canada.
Collins, C. (1994 December). "The New-'Wise Use' Environmental Movement." Blue   Ribbon
Magazine.
MacMillan Bloedel. (1975) "How to become a more sophisticated saboteur in groups".
        (Paper circulated by MacMillan BLoedel).
Michaels, Patrick. (1992). "Sound and fury: the science and politics of global warming".   CATO.
Munroe, J. (1993). "the Monoculture Myth.". Choices.
        Forest Alliance of B.C. Vol. 2 Number 2
_____(1994). "Ozone depletion and ultraviolet radiation:
        recommendations from working groups" . Ozone depletion and ultraviolet
        radiation: report from conference. Skies Above Ozone Conference: Victoria, B.C
_____1993, July/August). "Former Greenpeace Chief Slams Group". People's   Agenda, p. 11
———(Report. from Ozone Depletion and Ultraviolet Radiation, Conference, 1994).
Rothbard, D. (1993, September/October). "Balanced forest plan weighs heavy on NW
        loggers." Citizen Outlook. Committee for a Constructive Tomorrow Vol. 8 No 4.
Russow J. (1993). "Climate change: the Canadian context". Unpublished research   paper
for Social Learning Project related to climate change. (Available on disk   from author).
United Nations. (1982). General Assembly Resolution World Charter of Nature.
United Nations. (1992). Framework Convention on Climate Change. United Nations
        Conference on Environment and Development (UNCED).
United Nations. (1992) Agenda 21. Chapter 26. United Nations Conference on Environment
        and Development (UNCED)
United Nations. (1992). Agenda 21. Chapter 18. United Nations Conference on Environment
        and Development (UNCED)
United Nations. (1992). Agenda 21. Preamble. United Nations Conference on Environment
        and Development (UNCED)
United Nations. (1992). Agenda 21. Chapter 7. United Nations Conference on Environment
        and Development (UNCED)
United Nations. (1972) Conference on Human Environment (UNCHE)
United Nations. (1993). World Conference on Human Rights
United Nations. (1994). Conference on Population and Development.
United Nations. (1995). Conference on Social and Human Development
United Nations. (1995). Draft Document. UN Conference on Women: Development,
        Equality and Peace.

CHAPTER 6:

CONCLUSION

The awareness of the principles enunciated and statements made in this Charter, will hopefully make decision makers and citizens aware of the obligations that have been undertaken in the 50 years of the United Nations. In Beijing in September 1995 one month before the official 50th anniversary of the United Nations, states will have the opportunity to assert the political will to comply with and go beyond their obligations to a global solution.

Throughout the past 50 years the United Nations has undertaken obligations to address these issues; yet States within the United Nations have failed either to sign these international instruments, to ratify these instruments, or even when signed and ratified to enact the necessary legislation to enforce these instruments. On the eve of the 50th Anniversary of the United Nations, the state's members of the United Nations, shall undertake to sign what has not yet been signed, to ratify what has not yet been ratified, and to enforce what has not yet been enforced. Even the fulfilling of these obligations by signing, ratifying and enforcing will not be enough. If real change is to occur, the global community has to summon up the political will to bring about fundamental change.

PROMOTION OF TOLERANCE, PUBLIC AWARENESS AND UNDERSTANDING OF GLOBAL ISSUES THROUGH PRINCIPLE-BASED EDUCATION

Only the individuals and the institutional representatives that are promoting and demonstrating in their total operation adherence to socially equitable and environmentally sound development shall be involved in public education, and on decision making bodies.

PRINCIPLE BASED EDUCATION

A potential means of addressing the reduction of resolve in bringing about substantial global change through education (drawing upon the publication Russow, Jana method of teaching human rights", 1985, and extended with the collaborations of David white)

For years, the international community through international documents has recognized the urgency of addressing issues related to environmental degradation, escalation of war and arms production, violation of human rights, and the inequitable distribution of resources. In these documents' principles can

be extracted and a complex of principles presented as representing an expression of international concern.

In principle-based education the urgency of problem will be acknowledged, the international document addressing the urgency will be examined, and the principles in the different documents will be explored, and proposed international solutions offered through international law and obligations will be evaluated

In principle-based education students are encouraged to examine and to appreciate the full complexity and interdependence of global/local issues within a framework of internationally agreed to principles. The students are encouraged to investigate the components of these agreed to principles and to analyze the role of science and technology in the fulfillment or violation of these principles.

The emphasis in this approach is on becoming knowledgeable about the principles and their application, on investigating the implications of these principles, on analyzing and synthesizing information on current issues in the light of these agreed to principles, on clarifying the role of science and technology in relation to these principles, and on proposing a range of possible solutions to practical problems emerging from the issues. The students will be encouraged to investigate local issues within This framework of globally adopted principles.

This approach entails (1) examining principles enunciated in primary source material (international documents);(2) examining the role of science and technology in local and global issues (3) compiling actual cases studies and hypothetical case studies; (4) engaging in analytical processes of issue-principle analysis drawing upon a wide range of processes in creative and critical thinking (5) investigating a wide range of local and global concerns (6) thinking about the complexity and interdependence of issues within the framework of international principles (7).proposing solutions and resolutions based on the full examination of the principles and issues.(8) integrating themes, principles and issues, and linking these with science and technology (9) Determining appropriate moments for integrating issues into the science curriculum (10) developing lesson plans and educational materials based on issue-principle analysis (11) applying scientific knowledge global and local issues; (12) Determining the linking of issues and principles to "organizers" within the science curriculum such as "changes in the Environment" and "Ecology and resource management" (13) Encouraging the development of a responsible attitude towards local/ global issues. (14) Fostering the working cooperatively and independently

ISSUES-URGENCY- PRINCIPLES- PRINCIPLES OF ACTION- ACTION- RESPONSIBILITY

Principle-based framework
At the international Conference on Environment and Development (UNCED), important principles were established in the globally adopted documents. These

principles have been linked with previously adopted principles related to human rights and peace issues as a basis for principle-based education:
Underlined name of international agreement that addressed the issue
A preliminary analysis of the following international instruments and documents has been completed by Joan Russow. The documents include the following:

(i) legally binding International Conventions, Treaties, Covenants and Declarations
(ii) Globally adopted UN documents and resolutions
(iii) Globally adopted NGO documents and resolutions
    (See Appendix I for a list of international instruments that could be used)

PRINCIPLES FROM THE DOCUMENTS ADDRESS THE FOLLOWING ASPECTS OF GLOBAL ISSUES.

• Preserving, conserving and protecting the Ecosystem
Preventing pollution: nature of "environment" technology
• Invoking precautionary and anticipatory approach related to scientific certainty
Ensuring environmental assessment reviews: Role of scientific evidence
• Calling for Life cycle analysis: Examination of environmental effects from the production, refinement, consumption, and disposal of substances
• Affirming Non-transference of harmful substances or activities from one state to another (this would include toxic, hazardous and atomic wastes)

These issues will be integrated with international principles related to

Eradicating poverty
Eliminating discrimination
Ensuring gender equity
Guaranteeing equality before the law
Respecting Intergenerational equity (the rights of future generations)
Undertaking the positive duty to protect indigenous lands
Recognizing Positive duty to protect natural heritage
Phasing out use of non-renewable resources
Eliminating weapons of mass destruction

PRINCIPLE-BASED EDUCATIONAL APPROACH

Rationale:
In 'principle-based education,' 1 principles related to preventing (i) the destruction of the environment, (ii) the escalation of war, (iii) the violation of

human rights, and (iv) the perpetuation of inequity and social injustice have been extracted from international documents. These internationally endorsed principles become the foundation for an educational program. Often in "education about issues," in the name of objectivity, a "both-sides" approach is advocated. Issues are perceived to reflect different values, and because of this perception, all opposing views are considered to being equally legitimate. In this "both-sides" approach in the classroom students are often encouraged to explore positions which may be in contradistinction to principles that have been endorsed by the global community.

1 "Principle-based education" was introduced in 1985 in Russow, J. " A Method of teaching Human Rights;" and expanded in Russow, J and D White. Global/local Issues through principle-based education