Educating for Action
A framework for thinking about the place of action in environmental education.

by William F. Hammond

"Think globally, act locally...."
"Environmental education proceeds from awareness, to knowledge, to action...."

These are familiar refrains to environmental educators. As teachers we try to nurture awareness of the environment and to create the capacity for taking action. In effect, we invite students to feel more competent, powerful and effective.

But do we really prepare students to address environmental problems in the real world? How often do our environmental education programs put students on the path to new awareness and then leave them to enter the fray without field-testing their environmental action skills? How often do school trustees, superintendents, principals and parents pay lip service to the notion that students should learn to be responsible citizens, and then object vigorously when a teacher coaches students to take personal positions and engage in responsible action within their community?

In this article I will explore these questions using a framework termed the Action Learning Triangle. It is my intention to help teachers examine the position of action within environmental education programs in their own class-

rooms, schools, and school districts, and to provide a framework for the critical review of national, state, and provincial environmental education initiatives.

The significance of action

Teachers who try to provide students with opportunities to take action to improve the environment must often swim upstream against the system. Yet the value of action as an outcome of education is a prominent theme among curriculum theorists. Fred Newman refers to action as "environmental competence, a proposed educational goal, defined as the ability to engage in behaviour that leads to one's intended consequences in the environment." In his essay "The Quest for Certainty," John Dewey asserts that action is "at the heart of ideas," and in Ecological Literacy, David Orr develops the concept that action is inextricable from environmental education and the attainment of a sustainable economy:

...practical competence will be essential if sustainability requires, as I think it does, that people must take an active part in rebuilding their homes, businesses, neighborhoods, communities, and towns. Shortening supply lines for food, energy, water, and materials — while recycling waste locally — implies a high degree of com-
petence not necessary in a society dependent on central vendors and experts.\textsuperscript{3}

Orr extends this line of thought further in analyzing the role that is nurtured in the typical university, college, or school:

... [in the contemporary college] students learn that practical incompetence is de rigueur, since they seldom are required to solve problems that have consequences except for their grade point average. They are not provided opportunities to implement their stated values in practical ways or to acquire the skills that would let them do so at a later time. Nor are they asked to make anything, it being presumed that material and mental creativity are unrelated.... The losses are not trivial: the satisfaction of good work and craftsmanship, the lessons of diligence and discipline, and the discovery of personal competence. After four years of higher learning, students have learned that it is all right to be incompetent and that practical competence is decidedly inferior.\textsuperscript{4}

If action is fuel for thought and an indispensable asset in the development of understanding and competence, why don’t more school programs systematically engage students in personal and community action? A possible reason that some teachers avoid serious action projects is concern that students will get out of their depths, experience failure, and become filled with a sense of powerless. To this might be added the concern that student action projects will confront community standards or come into conflict with powerful vested interests in ways which will bring attacks on students, teachers, and the school, or leave teachers open to the charge of indoctrinating students. One of the most common excuses for not getting students involved in significant action projects is that the pressures of content coverage do not permit it.

In the face of such objections, it is useful to consider the value of action projects in achieving overall educational objectives. Most teachers recognize the qualitative differences among data, information, knowledge, understanding and wisdom. Yet school programs often emphasize information acquisition at the expense of the larger purposes of developing knowledge and understanding. When students move beyond the recall and restatement of information, they begin to be able to apply skills and information in new contexts, and to invent new applications (demonstrate transfer) of familiar principles or procedures. Such actions are evidence of the construction of knowledge and the development of understanding. Further, when students are able to make thoughtful and appropriate decisions about when, why, and whether to apply knowledge and skills they are demonstrating the development of wisdom. In my experience, meaningful and challenging action projects, sustained and developed over time, are one of the most powerful means of helping students negotiate this progression from information to wisdom.

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of school curriculum to address the challenges to environmental sustainability that our way of life presents. David Orr (1992) confronts this issue directly:

“Sustainability is about the terms and conditions of human survival and yet we still educate at all levels as if no such crisis existed.... The crisis cannot be solved by the same kind of education that helped create the problems. Against the test of sustainability, our ideas, theories, sciences, humanities, social sciences, pedagogy, and educational institutions have not measured up. Schools, colleges, and universities are part of the problem. What passes for environmental education is still mostly regarded as a fill-in to be cut when budgets get tight. Environmental education is done by teachers and faculty mostly on release time or on their own as an overload. Environmental concerns and the issues raised by the challenge of sustainability are still blithely ignored in the mainstream of nearly all the disciplines represented in the catalogs of our proudest institutions. From a casual sampling of the various professional journals, one would have little idea that humanity had any problems beyond methodological esoterica.\textsuperscript{5}
If modern environmental problems arise from the way humans relate to the biosphere and to each other, then schools, as the major purveyors of contemporary culture, are in a unique position to foster the knowledge, skills and wisdom needed to create a society better able to sustain us in the long term. The extent to which schools should do this, and how they should go about it, are important and difficult questions for teachers in general and for environmental educators in particular.

One of the reasons that environmental education is often found at the periphery of the school program, if it is found at all, is that it is part of a new, postmodern paradigm struggling to be born within the structures of a modernist, industrial school system. It is likely that a great deal of the confusion and debate surrounding schools reflects a deeper clash between profoundly different world views. On one hand is a modernist view which emphasizes homogeneity, specialization, compartmentalization, competition, hierarchy, paternalism, and objectivity wedded to science and technology. On the other is a postmodernist vision emphasizing diversity, inclusion, cooperation, integration and synthesis, harmony between genders and a more holistic view of the universe, community, and human life. Orr puts the matter this way:

For those accepting the modern paradigm, environmentalism amounts to little more than fine-tuning a good thing. Environmental education, therefore, can be easily accommodated within existing disciplines and departments. But proponents of a ‘biospheric’ viewpoint and ‘deep ecologists’ advocate much more sweeping changes in the human relationship with the natural world and hence significant changes in education.... These proponents are in effect advocating a postmodern paradigm.6

Constructive postmodernism does not require the abandonment of technology and scientific rationality. It permits the blending of the best of the industrial modern world with the most useful and constructive of post-industrial thought. When students are invited to move their education beyond the walls of the classroom and engage in genuine action, they are given the opportunity to synthesize knowledge, skill and character; to test their preconceptions and misconceptions against real experience; and to learn both to follow and to lead as members of a learning organization. Thus, the action components of environmental education have the potential to help schools manage the transition to a postmodern world.

**Action in Curriculum Theories**

**There are** at least five major, successful curriculum theories touching on the role of action in environmental education programs. It is useful for teachers, administrators and program developers to recognize these theories and to understand their areas of difference and commonality. The five central prevailing theories are:

**Information-based**

The major premise of the Information-based theory is that if students are given information about how others have acted successfully, and about what techniques and methods have worked, they are much more likely to act effectively and responsibly. (They are certainly more likely to act than if they receive no information or illustrative examples.) Monroe, for example, has developed a case study methodology that gives examples, through stories, of both successful and ineffectual group actions by students. In addition to stories, students may be provided with examples of citizen action through films, texts, guest speakers, simulations, interviews and mock elections. This approach is widely used as a means of informing students about environmental action projects, and follow-up studies have demonstrated that it can be quite effective in empowering students to act. The approach is very congruent with the awareness and knowledge stages of environmental understanding. It pays less attention to action skill development and often assumes that students can become effective actors from role models and illustrative examples. This is the dominant theory in practice in North America today. Yet statistics on voter registration and turnout among young people strongly confirm that this approach has not succeeded in empowering students to be engaged citizens at the general level.

**Behavioural Approaches**

The major premise of the Behavioural school of thought is that if students are trained in action skills and acquire knowledge about the environment, they will change their behavi-
Three Levels of Environmental Action

R.J. Wilkie summarizes the primary methods through which a person may engage in action as Persuasion, Consumerism, Political Action, Ecomanagement, and Legal Action. My own research shows that action projects may be organized in three levels according to ascending requirements of time, effort, and support as well as qualitatively different training needs.

**Level 1:** Actions that entail the design, development, and implementation of projects that produce a specific product or discrete, direct outcomes, usually in a fairly short time period. Typical examples might include building a nature trail, cleaning up a stream or vacant lot, implementing a garbageless lunch day, collecting and selling aluminum scrap to buy a critical habitat, planting a butterfly garden, implementing a school-wide energy conservation campaign, or creating a wildlife habitat in a defined area. Many of these fall within the terms of what Wilkie calls "accommodation actions. This is the level at which the vast majority of school programs operate.

**Level 2:** Actions that require an additional set of skills and entail the design, development, and implementation of ongoing, long-term, continuous processes. Examples include establishing and maintaining a recycling or energy conservation program; maintaining a wildlife management area, school fish hatchery, or sustainable school forest; or developing, implementing, operating, and evaluating a school- or district-wide "green" purchasing and operations plan. Projects at this level typically fall within the action categories of persuasion, consumerism, political action, and, possibly, accommodation. Because they involve more than one-shot, short-term efforts, these projects must develop strategies for sustaining membership and commitment long after the students move on from the school. They often require quite different approaches to organization, leadership, communication, and finance.

**Level 3:** This level of action project requires skills even more sophisticated than those needed at Level 2. These projects are characterized by the design and implementation of changes in policies, regulations, or laws. While least common in schools, such projects are becoming more evident. Examples range from effecting changes in school board policies to getting laws passed for species or habitat protection, placing environmentally sensitive land acquisition projects on referendum ballots, and successfully filing suits against environmental offenders. Such projects require skills, support systems, time, and resources which are qualitatively and quantitatively different from those needed at Levels 1 and 2. Level 3 projects encompass Wilkie's categories of Political Action and Legal Action; and often all other action types. They are the sorts of projects most likely to attract criticism from community members, lobby groups, and vested interests or from persons who hold that schools should be remote from the realties of the day-to-day world and certainly from any involvement in politics.

These three levels, while distinctly different, are not arranged in a hierarchy of value. Projects at each level can have great environmental importance and can contribute to learning and to the development of personal and community competence. However, different experiences and learning are gained by engaging in projects at the different levels, and thus it is to be hoped that a student who progresses through 13 or more years of schooling will experience action projects at all three levels. – William F. Hammond

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Community Problem Solving/Action Research

The major premise of the Community Problem Solving/Action Research theory is that if students get a chance to engage in direct experiences in their communities, they will encounter and recognize problems and issues. Through a process of "praxis," students will then learn to formulate action plans, act on the plans, reflect on successes and short-
Five Theories for Integrating Action into Environmental Education

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<tr>
<th>Theory:</th>
<th>Information</th>
<th>Behavioral</th>
<th>Action Research</th>
<th>Integrated</th>
<th>Bonding</th>
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</thead>
<tbody>
<tr>
<td>Proponent:</td>
<td>Tradition, and M. Monroe</td>
<td>Hungerford and Volk et al</td>
<td>Stapp et al., Dewey</td>
<td>Hammond et al</td>
<td>Cohen et al</td>
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<th>Delivery in schools:</th>
<th>Top Down</th>
<th>Teacher</th>
<th>Bottom Up</th>
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<tr>
<td>Locus of control:</td>
<td>High</td>
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<td>Motivation:</td>
<td>Low</td>
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<td>Cultural context:</td>
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<td>Intrinsic</td>
<td>Open</td>
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<td>Brain Pathway:</td>
<td>Top Down</td>
<td>Cerebral &gt; Limbic &gt; Reptilian</td>
<td>Bottom Up</td>
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<td>Instructional change required:</td>
<td>Little to no change</td>
<td>Extensive change</td>
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<tr>
<td>Institutional change required:</td>
<td>Little to no change</td>
<td>Extensive change</td>
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<tr>
<td>Action engagement of students:</td>
<td>None for student</td>
<td>Extensive</td>
<td>High student engagement</td>
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<td>Evidence of action:</td>
<td>Little</td>
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Table 1

comings, and redesign their plans in a spiral of planning-action-reflection-reformulation-action, eventually leading to problem solving. Ideally the learners determine both the problem and the methodology for its solution. Stapp and Robottom and Hart are major current practitioners of this approach, but the theory has roots in the work of Dewey, Lewin and Friere. Action research models are currently also popular among education change theorists and many teachers are being invited to apply this process in their own schools and classrooms. The potential educational significance of action research has been widely recognised even though it requires alterations in the school schedule and work of students.

Integrated or SMART-B
The foundational idea of the integrated or SMART-B model is that learners should be engaged in the community through firsthand experiences which emphasize connecting with natural systems. Following this, students should receive training in political and creative problem-solving skills and have the opportunity to implement action research projects with the support of mentors. Learning to identify and implement solutions to sophisticated community problems thus becomes a core part of the school experience. In this approach the learners, as members of a community group, determine the issues or problems which are to be the focus of action. The model places great emphasis on group decision making, individual responsibility, and group collaboration for implementation. The Lee County Schools Monday Group, one of the oldest continuously implemented school district action programs, and the British Columbia Water Stewardship Programme, are examples of the model in action.

Bonding with Nature
The central premise of the bonding model is that if learners become deeply bonded to nature at an affective and sensory level, they will act to protect and sustain nature. Their renewed, reopened senses will enable them to see what
needs to be done and to take responsible actions which heal natural systems. This model is highly affective in its approach and emphasizes extended, direct, deep experiences in natural settings. Michael Cohen, first with the Audubon Expedition Institute and now through Project Nature Connect, is the advocate for this approach to action. A criticism which might be offered of the bonding-with-nature approach is that it does not teach the knowledge and skills students need in order to become effective actors, especially in projects requiring complex and sustained actions. This is not to say that advocates of this model do not believe in the importance of knowledge and skill, but rather that they assign priority to the bonding process, taking the view that students will gain skill as they persevere to improve the environment from intrinsic stimulation.

All five approaches both describe and prescribe the role of action in environmental education and how to implement action components in schools. It must be emphasized that these theories are not offered here in competition with each other or to argue that any one approach is right and superior to the others. Since each has its advantages and disadvantages, educators can choose the model that best suits their context and is most likely to be accepted in their communities. They can even be hybridized or elements of each can be integrated into another. Table 1 summarizes and compares some of the major elements of the theories.

The Action Learning Triangle

TO LOOK BEYOND the claims of advocates for the various models, it is helpful to consider the role of action projects in the educational development of students. The benefits of action projects can be synthesized as three domains of learning arranged in a triangular relationship:

1. Environmental education in schools entails learning about action: This side of the triangle represents the learning of action skills and strategies, and the history of action projects, through examples or models. Teaching methods may include the use of case studies, simulations, role playing games, lectures, and presentations from persons who have successfully conducted action projects. The learning may inspire students to take action outside of the school program, but it will be brought to life most effectively in the context of action projects within the core school experience.

2. Environmental education in schools may entail learning through action: The second side of the Action Triangle entails involvement in a real action project. When students select, plan, implement, and evaluate an effective project, they have the opportunity to develop an enhanced sense of personal competence and to overcome the syndrome of powerlessness. Furthermore, real world projects have real world consequences which have direct relevance to students and can inject high levels of meaning into the school curriculum. This side of the Action Learning Triangle is emphasized in the Community Problem Solving/Action Research. Smart-B or integrated approaches (although those models attempt to integrate all three dimensions), and by the bonding-with-nature theories.

3. Environmental education may entail learning from action: This dimension of the Action Triangle is engaged when students assess the significance of project outcomes and processes. If engagement in action projects is to result in more active and effective civic participation by students, students must not only act (or study action) but also reflect on the significance of the action to themselves and their communities. For example, many students have engaged in clean-up projects on school grounds or local creeks and streams. While a clean-up is useful, it is not likely to increase students' participation in civic government, nor will it lead to major changes in lifestyle unless teachers and students systematically reflect on the reasons why these actions were necessary in the first place, on whether or not they have addressed root causes, and on what changes would be needed to effect a cure as opposed to a band-aid, short-term fix. Learning through reflection requires skills on
Experience teaches that students who are prepared with information and skills about action but who do not practice those skills beyond classroom simulations, discussions, and debates, often fail when they engage in action projects in the 'real' community.

As meeting all the criteria of a Comprehensive EE Program. These include having a community advisory committee, board-adopted K-12 curriculum, EE on the school campus, extensive community field studies program, teacher inservice program, action program emphasis, comprehensive assessment program as well as numerous other attributes.

The school board supports the environmental education program — and has done so since 1970 — with a budget of approximately $500,000 per year, providing for eleven full time EE staff members who serve teachers and students as part of the district’s core program. The district’s requirements include the expectation that all students will not only develop the capacity to take responsible action, but will demonstrate the will and the skills to improve the sustainability of the environment. This was accomplished over many years by viewing the implementation of environmental education as a political action project in its own right.

This meant educating decision makers, lobbying when appropriate, using the mass media to shape public opinion, conducting ongoing research, and building a community constituency which includes a large, broadly based Community EE Advisory Council which is not only asked to advise but is heard.

The Lee County program has been successful because it is built upon the ethical position that teachers are facilitators for learning and must not use students as advocates (no matter how compelling or clear the cause may seem). Instead, teachers must provide students with a wide and balanced range of fair views on issues. Students must then make personal choices about whether or not they will act and how they will act to address a given problem or issue. Thus teachers coach, facilitate, and act as mentors, while students learn through engaging and taking risks until they are able to go forward as citizens in a democracy. These students can’t wait to register to vote, to join with others in making sound personal environmental choices and restoring and sustaining their local and global environment.

The Lee County program has also developed an ethical framework to guide action projects with students. It results from years of experience by many teachers, advisors, students, and experts who have worked in the program. The elements of the framework, which apply to all grade levels are as follows:

✦ Be for something. If you are against or don’t like something, it is your obligation to reframe it and to offer others your ‘wish’ or proposed solution.

✦ Do your homework. Research your problem or issue and become a knowledgeable ‘expert.’ An expert by our definition is anyone who knows more than a local county commissioner on the topic. Read two or three papers on the topic, and interview an expert and you generally know more than
Youth in Action: Tipping the Legislative Balance

A group of inner city students from Louisville, Kentucky, learned the power of taking action when they joined the campaign for the passage of an important environmental bill in the state legislature.

In the fall of 1993, a mixed group of elementary and secondary students from inner city schools in Louisville got together for a brainstorming session. Feeling a little excluded from decision-making processes, they wanted to find a way to create a voice for youth on environmental issues. By the end of the day, the newly formed group, Youth Environmentally Aware, had an ambitious plan to lobby for a bill that had recently been introduced to the state legislature. If passed, the bill would create a heritage land trust fund derived from three revenue sources: environmental fines, an "unlinked" minerals tax and the sale of special environmental license plates. This money would go to purchase environmentally significant lands across the state and provide first-time funding for the Kentucky Environmental Education Council.

In the months that followed the students were steadfast in their purpose. They wrote letters asking members of the legislature, influential business people and many others to endorse the bill. Capturing the support of the wife of the Governor, they were invited to visit the state legislature in Frankfort where they lobbied politicians in both legislative houses. They held weekly strategy meetings and organized workshops for Louisville students as well as a state conference that drew over 200 students. Their persistence helped to tip the legislative balance: in July 1994, the Governor invited them back to the state capitol for the signing of Bill 368 establishing the Kentucky Land Heritage Trust Fund, which now receives over $6 million each year for land purchases. The elated students had just enough time to celebrate their success with a pizza party before getting back to work. Upon learning that 1,000 letters of intent were needed before the environmental license plates could be issued, they walked their neighbourhoods until they obtained signatures of 1,000 residents who promised to purchase the plates once they became available.

While many influential state organizations lent support to the bill, "the kids made a difference" confirmed Jane Wilson of the Kentucky Environmental Education Council. "Cute kids are one thing, but well-informed cute kids are another."

Ultimately, the students gained much more than the passage of the bill according to Don Wigginton, one of the group's teacher advisors. They learned how government works, including the many compromises involved in bringing forward new legislation, and they mastered the art of persuasion and learned the virtue of perseverance.

The group has since moved on to other projects, most recently turning their attention to logging issues. They want to persuade their school board to recycle cardboard and are undertaking an annual biodiversity survey of nature preserves. They are also participating in Rescue Mission Earth's Indicators Project, the international student follow-up to the 1992 Earth Summit in Rio de Janeiro. Like many of their peers elsewhere, these young people have discovered the power in taking action.

"Cute kids are one thing, but well-informed cute kids are another."

— Tim Grant, co-editor

most people in your community. Read five papers and interview three experts and generally people will perceive you as an "expert."

• Learn to read the 'force field' that supports or opposes your viewpoint. Interview any opposition that you may encounter and try to understand their position (they may be smarter or better informed than you) to see if there is common ground in your purposes.

• Begin by treating everyone you encounter as a person of high moral worth. When you treat people as if they were stupid, foolish, or crooked they may have an incentive to meet your expectations.

• Avoid stereotyping. Stereotyping limits possibilities and shuts down real communication because those who hold the stereotypes are so busy attending to what they believe that they do not pay attention to what is actually happening or being done or said.

• Avoid scapegoating. Don't blame your lack of success on something or someone else. Accept responsibility and move on.

• Recycle. If at first you don't succeed, rethink — What do we need to do better, differently, or more often? — and cycle through the process again. You never start the second cycle where you began. Use what you have learned!

• Be persistent. Don't give up! Most environmental problems don't appear quickly and they are not likely to be solved quickly. Break your plan into doable pieces and just try to accomplish one or two pieces in a school year. Think big, think long term, act in small, achievable steps and you will eventually attain your goal if you persist.

Experience teaches that students who are prepared with information and skills about action but who do not practice those skills beyond classroom simulations, discussions, and
debates, often fail when they engage in action projects in the "real" community. Powerful forces engulf idealistic, naïve, unprepared young people, and those who encounter such failures can become very disillusioned about the "system" and about government and politics.

It is my view that we owe every student who engages in community action a fair chance for success. The only way of having any confidence that we will later succeed is to be sure to provide them not just with information, theories, and skill-building activities, but also with opportunities to gain experience in applying knowledge and skill to appropriate, real community action projects under expert adult mentorship. Teachers and mentors must coach students to divide projects into small subcomponents and to recognize when they have succeeded in making a difference even if they do not achieve their full goal. In other words, school programs need to give emphasis to all three sides of the Action Learning Triangle. If students fail under these conditions, and they sometimes will, the failure can be a learning experience that will help to ensure future success.

Even once they are empowered by successful action experiences, learners will continually be faced with real-life choices. How can they decide on which options to spend their limited time and precious energies? I have found the following questions to be helpful: whenever you have to make a decision, ask yourself and your institution, "Will this process and its results open more options for the future or foreclose future options?" I believe we should choose the path which increases or maintains choices for those who will follow. We should also ask, "Will this process and the results be good for children, all people, wildlife, water, air, forests, the school, the community, the country, the planet, all life and living, the earth's restoration and sustainability?" If the answer to these questions is yes, then commit to action and do it well. Good luck.

William F. Hammond is an environmental education consultant and former teacher and district curriculum and instruction development director of Lee County Schools in Fort Myers, Florida.

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