

Editorial

Greetings from the Editor



Greetings to all GEOEC members. I would like to introduce myself as your new editor and share my ideas for future issues of *Connections*.

I am a mother of two children, both of whom are featured on this month's cover. I have many interests, including gardening; drawing and art in many forms, such as sculpture, collage and body painting; dancing; writing poetry and stories, and storytelling; camping and yoga. I have had a deep connection with nature all of my life. My concern for the environment and for the future of my children propelled me out of the science laboratory and into environmental education. It has been a lengthy journey of six years of work, with the notable outcome of the Earth Challenge Project, which I designed and of which I am currently project manager (when I am not being the editor for *Connections*!). Earth Challenge is a pilot into eco-immersion in the public schools and is currently being tested at Minchau Elementary School in Edmonton. Check out the website at www.earthchallenge.com.

The theme of this issue is fieldtrips. Glenda Hanna has contributed an article on YouthSafe Outdoors, a fantastic, free program that will benefit all schools and students. Cathy Cochrane and Kym McCulley share their inspiring experiences working with Nature School at the Inglewood Bird Sanctuary in Calgary. Phyllis

Chmiliar, assistant principal and special needs facilitator of St. Luke School, outlines the benefits and practical application of Howard Gardner's multiple intelligences theory. Many people have played fast and loose with Gardner's original theories; I requested this article as a reprint from the Gifted and Talented Education Council's newsletter, *Sage Words*, because I was impressed with how accurately Chmiliar interpreted his work. Environmental, outdoor and global education lend themselves beautifully to the application of this theory.

"We Care!" is the GEOEC executive's response to the terrible events that unfolded this September in the United States. As a council representing peace and global concerns, we felt it important to suggest ways that educators can help students cope with feelings of anxiety and uncertainty.

In this issue you will also find an excerpt from Agenda 21, which is driving the course of environmental education at the federal level, and Rebecca Lippiatt-Long's "Envisioning Environmental Education," a summary of the latest Environment Canada report on the state of environmental education. I believe significant and positive changes are in the works for environmental education, and because we all should be informed, I strongly urge all environmental and global educators to research current events.

There is a feature on the Alberta RiverWatch Science Program, as well as a review by Angela Payne of a book that I hold dear to my heart: *The Courage to Teach: Exploring the Inner Landscape of a Teacher's Life*, by Parker J. Palmer. I nagged the Edmonton Public Library for over a year to purchase this book, so I know it is in the system!

I would like to thank everyone who came through on time with fabulous articles for my first issue as editor; it made my job so easy!

Here is my *Connections* schedule and suggested themes and topics for the upcoming year.

Theme: Storytelling

Deadline for submissions: December 15, 2001;
Issue due out: February 1, 2002

1. Oral storytelling as a tool for teaching communication.
2. Songs as stories, history and tools for change.
3. The power of words.
4. Poetry: different ways to teach and write it.
5. Storytelling and role-playing as a means of teaching difficult issues.

Theme: Teaching Peace

Deadline for submissions: March 15, 2002;
Issue due out: May 1, 2002

1. Reaching difficult students.
2. Planting seeds of hope in a world that defies it.
3. The importance of participating in curriculum development as it relates to environmental and global learning.
4. The importance of being aware of cultural shifts and being active in shaping them.
5. Personal stories of pivotal teaching moments when peace became meaningful to students.
6. How to stay hopeful when things get overwhelming.

Theme: Tools for Change

Deadline for submissions: June 15, 2002;
Issue due out: August 1, 2002

1. Empowering youth to make changes towards sustainability.
2. Using fine arts (songs, dance, chants, poetry, painting, etc.) to express a vision of change.
3. How teachers can prepare for change in the classroom—coping with new concepts, new curriculum demands.
4. The features of change.
5. Why change at all?
6. Why change is so threatening.
7. Trends in cultural change today.

In addition, I would like the following features to make regular appearances:

1. What's Happening (and Where): you tell me.
2. Resource Feature: along the lines of a book review—a personal account of an outing or resource-related experience.
3. Who You Gonna Call: identifying people who offer valuable and possibly unusual resources for teachers.
4. Reach For the Stars: celebrating models of excellence by profiling case studies.

There is also a great need for artists and photographers (yeah, I know you are out there. I see you with your cameras and I sit through your slide shows) to submit artwork and photos to be featured in the newsletter. Bear in mind that *Connections* is a black and white publication. I can accept color photos, but they will be printed in black-and-white. Look for good lighting and contrast. I would also be happy to arrange for photos to be taken of sculptures. If you think that you have a photo, drawing, sculpture or anything that would fit in with any of the themes listed above, please let me know.

If anyone feels moved to write on these topics, knows someone else who can contribute, or knows of someone who should be written about, please let me know. If you are burning to write an article for a later issue, do it now and I will store it until the necessary date.

Thanks everyone.

—Karin

Karin Adshead,
GEOEC Editor,
Connections
c/o 9829 - 74 Avenue
Edmonton AB, T6E 1G1
(780) 457-9519
e-mail: karin.adshead@earthchallenge.com

GEOEC Business

We Care!

Luella Cronkhite

*President Elect of the Global, Environmental, and Outdoor Education Council—
on behalf of the GEOEC Executive.*

The events of September 11, 2001, will undoubtedly remain with us always. The horror and the pain that we all witnessed have become embedded in our personal and collective consciousness.

No one can condone the terrorist actions against the United States that took place on the day that everyone says has changed our lives forever. Each of us is painfully aware of the notion of the six degrees of separation as we contemplate friends, family and colleagues in New York, Washington or elsewhere in the United States. Somewhere deep inside us is the uncomfortable truth that, while the attack was the work of fanatics, it comes as a result of the inequalities on our planet. Over six billion people inhabit the world today, of whom 20 percent live in the West. According to the latest United Nations population report, by 2050 there will be 9.2 billion people, of whom only 13 percent will live in the West; the entire three billion plus increase will be in the developing world. While we mourn the 6,000 or more dead and missing in New York, we must acknowledge that over 200,000 have died in Burundi as a result of civil war over the past five years, a million or more have died in the Congo, and wars continue in Sudan, Liberia, Angola and Nepal.

As the gap between the West and the developing countries continues to widen, educators need to help students understand our moral responsibility to address the terrible levels of inequality between nations and the degree of absolute poverty that exists in the world.

Perhaps our greatest challenge will be drawing lessons from these events and seizing the opportunity to talk about and teach peace. What do we say to our students when they are confronted with the reality of what is emerging globally? Here are some thoughts:

For students in our school today, we *must* share the following:

1. We live in a society that is blessed with a diversity of people and beliefs. Though often challenged, this diversity is the foundation of being part of a global society. In Canada, we must embrace and cherish this diversity because it is one of the vital things that makes us both strong and unique.
2. For while there are people who choose to point fingers at certain groups, people or religions, we must remind ourselves that all major religions originate from a point of love and compassion. Those who choose to hurt do not represent the masses; they are the extremes.
3. We must constantly reinforce safe and caring schools. Students must be assured that they will be safe in their school, and we must do all that is within our power to ensure that they are. It is our fundamental responsibility as educators.
4. Students have every reason and right to be fearful of the events emerging around us, for nobody knows what tomorrow will bring. We should not negate or dismiss these emotions; rather, we must talk openly and honestly. Giving our students the opportunity to

talk is one of the most effective outlets we can provide.

5. We must be careful not to sensationalize, but we cannot ignore the realities around us. This is a critical juncture in our history, and what we do in school today *will* have an impact on the world of tomorrow.
6. As noted earlier, we must seize this moment and focus on peace. We must emphasize the many virtues that foster peace, such as respect, caring, understanding and compassion. There are many things that are well beyond our control right now, but the ability to ensure a peaceful reality within our immediate world is well within our grasp. We must work very hard to see that this event is not forgotten. Talk about it directly. Just as the horrible images of violence will be hard to erase, so too must the image of peace become hard to forget.

There is a school in Calgary where the student body represents 36 languages and many of the students are Muslim. As the principal went around the school on the morning of September 11, he relayed to the students the facts as they were known at the time, spoke of the

importance of not pointing fingers at each other and emphasized the need to focus on peace. Following the attacks, teachers held daily discussions so their students could share their stories and feel safe at school.

Most important, we must demonstrate through our words and actions that we care. Say hello or smile at every person you pass in the hallways. Be visible. Be supportive and understanding. Be forceful in challenging intolerance. Be a shoulder to cry on. Remember that every one of us is a vital piece of our school's mosaic. We must embrace and cherish who we all are as individuals and celebrate all that we stand for as a community. And above all else, show that we care!

Plan to attend the GEOEC annual conference, May 2–5, 2002, at the University of Alberta, for workshops, keynotes and a supportive network on global issues and understanding what to do in your classroom. The theme of the conference is On the Brink: Educating for Hope. For more information and for further resources on how to help your students cope with the unfolding events, see our website at www.geoec.org or contact the Learning Network at learnnet@ualberta.ca.



Gareth Thompson chats it up with David Suzuki at GEOEC Conference 2001

Articles

YouthSafe Outdoors: Risk Management in School Outdoor Pursuits

Glenda Hanna

Project Manager, YouthSafe Outdoors



The YouthSafe Outdoors logo well illustrates our mission. We see young people being active in nature (under the sun by a river), capturing the joy they experience being alive there. However, the river can also be viewed as an adult's sheltering arm, demonstrating the need to protect our youth from unwarranted risks when we take them outdoors.

YouthSafe Outdoors (YSO) is a provincewide risk-management initiative for school-based outdoor

activities. The purpose of this project is to reduce the frequency and severity of preventable accidents/incidents involving youth engaged in secondary (Grade 7–12) school-based outdoor pursuits, such as hiking, canoeing and skiing. It also helps youth establish positive attitudes and skills essential to safe involvement in these activities during and following adolescence. For the purposes of this project, *outdoor pursuits* is defined as:

Non-motorized activities that involve moving across and/or living on relatively natural land, water or snow—including that found in urban, rural and/or wilderness parks and areas. All of the activities are based on the active interaction of students with the natural environment. The outing/field trip/camp may involve an alternative environments activity choice in physical education

(aquatics, water-based or outdoor pursuits), or be part of a required or elective science, environmental and outdoor education, careers and technology studies, or any other academic or extracurricular program.

Why YouthSafe Outdoors?

School programs are often student's major or only opportunity to experience nature firsthand, to begin to develop a personal relationship with it and to develop the knowledge, skills and attitudes for a healthy, active lifestyle close to the earth. If school field trips involving outdoor pursuits are further curtailed due to fears of incidents or legal liability, young people will have less exposure to the spaces and species we most need them to care about and

for. Other factors influencing the need for this project include

- significant record of fatalities involving Alberta youth engaged in school outdoor pursuits. This is the only organized aspect of school offerings in which children sometimes die;
- lack of common, appropriate risk-management policies and practices in school outdoor pursuits programs;
- inconsistent teacher preparation (background, training and/or inservicing) for this area. In 1996, the University of Alberta closed the program and courses that trained teachers, leaving a large void in the academic preparation of teachers working in northern Alberta; and
- lack of current, appropriate curriculum-support resources for teachers, administrators, service providers, parents/guardians and students. Recent staff cutbacks in the outdoor area—Alberta's four major boards collectively cut over ten internal consultant positions over the last few years alone. These cutbacks have meant that students have less time for outdoor and environmental experiences. A perusal of the material at Learning Resources Centre at Alberta Learning reveals a dearth of current, appropriate resources for teachers, administrators, parents and students.

The project will endeavor to promote safe outdoor experiences by

- helping youth who are taking part in school outdoor pursuits to enter the experience with a stronger sense of personal responsibility and self-reliance and to develop the understandings and skills

necessary to assess and manage these risks for themselves, now and in the future;

- supporting school administrators, teachers and others who plan and deliver school outdoor pursuits in providing safe, quality experiences for their students; and
- helping parents/guardians become more aware of their important role and responsibilities in ensuring that their children are properly prepared for their outdoor pursuits (physically, psychologically and behaviorally) and later debriefed at home.

What Will YouthSafe Outdoors Deliver?

Research

The staff of YSO spent the first year of the project (2000/01) studying the standard of care in outdoor pursuits in our schools. We surveyed superintendents, principals and teachers and sent all regular members of GEOEC a teachers' survey. The data was collected, summarized and analyzed, and the executive summary and full report now are available on our website: www.youthsafeoutdoors.ca.

Safety Guidelines

This research was supplemented with an extensive study of the standard of care in the planning and delivery of youth outdoor pursuits in other settings (recreational clubs and organizations, sport governing bodies, educational organizations, etc.). This learning led to a major proposed revision of the

outdoor-pursuits-related elements of the safety guidelines for physical activity in Alberta schools. This document, supported by Alberta Learning, is being written into the field trip policies of many school boards in the province, and all teachers are expected to adhere to its content. YSO is working with Jeff Reading from the GEOEC Executive and a committee of GEOEC experts who are reviewing the first draft of the proposed revision. We will take forward the revised draft together to the steering committee responsible for the safety guidelines document this fall. The revised Safety guidelines should serve as a much better tool for helping teachers and others plan and operate safe outings.

Curriculum Support Resources

Over this fall and winter, YSO staff will create a wide array of curriculum support resources for its target audiences. Resources will include

- criteria for and/or samples of districtwide policies and forms (field trip, transportation, health and medical, accident/incident, parental consent and master agreements);
- trip planning checklists;
- personal and group equipment and clothing, repair, first aid and survival kit lists for a wide variety of outdoor pursuit activities (recognizing different durations and environments involved);
- a tool for determining an appropriate supervision ratio for a given outing;
- a tool for determining first aid requirements;
- criteria for and sample of a route card;

- tip sheets on safety issues, such as group management on the trail/water, water treatment options, wildlife precautions appliance use;
- teaching and assessment tools, techniques and activities for helping students learn to assess and manage risks in outdoor settings;
- criteria for and sample of a student responsibility contract;
- information and exercises for students on risk assessment and risk management in outdoor pursuits;
- a provincewide video contest for students to help them learn and share the key messages (look first, get the training, wear the gear);
- a first aid/survival pocket card for students;
- sample study questions for students on assessing and managing outdoor risks;
- a brochure for parents outlining their role and responsibilities;
- a checklist of information about a trip for parents; and
- sample questions/processes for parents to help them brief and debrief their child.

These educational modules will be pilot tested at urban and rural sites. When finalized they will be distributed, at no cost, to all Alberta school boards, secondary schools, teacher training institutions, major youth recreation agencies, and search and rescue groups. We hope to launch the program packages at the GEOEC conference in Edmonton next spring.

The final year of the project, 2002/03, will be spent training and assisting teachers and administrators in the implementation of the safety guidelines and curriculum resources

distributed, documents which should fully complement each other. We will also conduct an evaluation on the impact of YSO, based on data from focus groups and surveys involving the identified target audience groups. Our final project report and recommendations will be due March 31, 2003.

Who Sponsors and Supports YouthSafe Outdoors?

The project has secured its major funding from a federal interdepartmental (RCMP, Parks Canada, Defence Department, Canadian Coast Guard) program called the Search and Rescue New Initiatives Fund, administered by the National Search and Rescue Secretariat. Provincially, the Alberta Municipal Affairs' Disaster Services Branch sponsors YSO. The project received full federal support in the rigorous national competition (75/25 percent funding, or \$246,094 of the \$328,125 budget).

To cover the remaining \$82,031, we have thus far received \$25,000 from the Alberta Centre for Injury Control and Research and are expecting financial and/or in-kind contributions support from Alberta Learning. The Alberta School Boards Association is also soliciting its members and writing grant applications.

There has been overwhelming support for the YSO concept in both major related sectors: education, and search and rescue. The project is steered by a 12-member committee that includes representatives from GEOEC, HPEC, the four major school boards in the province (EPSB, CBE, ECS and CRCS), the College of Alberta School Superintendents, an environmental and outdoor education service provider company, the RCMP, Search and Rescue Alberta, Alberta Disaster Services, and a Calgary parent who lost her son a year ago on a school backpacking trip. The Alberta Home and School Councils' Association is a supporting partner.

Glenda Hanna, B.P.E., M.A., Ph.D., is the Principal of Quest Research and Consulting, Inc., a company that works in the field of risk management and legal liability in outdoor education, recreation and search and rescue. Until 1996 Glenda was a professor of outdoor and environmental leadership at the University of Alberta for ten years. The closure of that program, the loss of outdoor and environmental consultants and the loss of support from the major school boards in the province for this vital area led Glenda to create YouthSafe Outdoors.



Connecting With Nature at Petro-Canada Bird School

Cathy Cochran and Kym McCulley

In the early morning sun, a group of Grade 3 and 4 students sits quietly looking across the lagoon to the trees beyond the swiftly moving Bow River. A new blanket of snow has fallen overnight. The tracks of a mule deer and a coyote have criss-crossed the pathway through the Inglewood Bird Sanctuary, creating a heightened sense of excitement and anticipation within the group. After several moments, Michael whispers, "There he is!" The group turns in unison as a large male coyote walks silently out of the trees in search of an unsuspecting mouse or vole for his breakfast.

It is day three of a full week at Campus Calgary's Petro-Canada Bird School.

As the children watch in awe, a great flurry of wings is heard from above. The coyote moves beyond sight, but from above flies a full-grown bald eagle, its white head a crown of brilliance as it pursues the mallards that have been feeding at the river. The children's eyes widen and they quietly gasp in wonder as the eagle drives the flock of mallards downstream. The chorus of quacking and timpani of wings in the frosty air is replaced by the sound of journals opening and pages turning as the students quickly search for a new sheet on which to record their most recent encounter. There will be much

to write about and to share with classmates when they return to the site classroom later in the day.

Classroom teachers often struggle with ways in which to integrate environmental education into their programs of study. While many of the resources available to educators facilitate the development of basic knowledge, little attention has been paid to providing students and teachers with real experiences that build deep understanding and develop responsible attitudes and changed behaviors. Petro-Canada Bird School is an exciting and unique program that is changing environmental attitudes not only in students, but in parents, teachers and programmers alike.

Because a clear goal of environmental education is to change behavior and attitudes about the natural world, it would seem advantageous to understand how attitudes and behavior are affected by programming. It is the belief of the Petro-Canada Bird School that children must be involved in learning experiences that are real and meaningful in order to develop a sustained sense of stewardship for the natural world. In a study conducted by Scott and Oulton (1999), researchers found a significant difference in knowledge transfer between children who

participate in authentic learning experiences in a natural environment compared to students who receive the same information in the classroom. They also argue that a community of educators, including teachers, students, parents, naturalists, docents and community volunteers, is needed to share responsibility for program planning within the context of the natural world. Unlike a traditional one-day field trip, when the teacher often takes a secondary role in planning the program, the Petro-Canada Bird School coordinator, program directors, naturalists and volunteers work as a team with the teacher to custom design a full week of school that connects seamlessly to the classroom focus. A week at the Petro-Canada Bird School is part of a long-term, interdisciplinary study that begins at school and continues long after the students have returned to the classroom. Frequent opportunities to spend extended periods of time observing and reflecting within this unique setting deepen student learning and play a major role in fostering attitudes of environmental stewardship and responsibility.

A study by Pooley and O'Connor (2000) found that if educators are interested in changing environmental attitudes, then emotions and beliefs,

rather than knowledge, must form the basis of environmental programs. A fundamental belief of the Campus Calgary program is that deep learning is based on the development of meaningful relationships, and that establishing these relationships takes time. When students spend several hours each day observing and reflecting, they begin to develop a real connection to their environment and soon acquire a sense of ownership of their surroundings. It is not unusual during an observation session to hear students reminding other visitors to the sanctuary to stay on the paths or refrain from picking the wildflowers. Many students and teachers leave their week at Petro-Canada Bird School feeling that they have experienced something spiritual, often commenting on the dichotomy of finding such tranquility and wisdom in the heart of the city.

Environmental awareness and stewardship continue beyond the Petro-Canada Bird School experience. The following student writing samples and parent letters illustrate the personal connections that are shaped by Petro-Canada Bird School experiences:

- When I was at Bird School I felt like I was in a whole new world. It was great being there. I loved the way nature looked and the way the animals we saw coped with nature and fit into their busy winter life.

I learned so much at Bird School. I learned what different animals' prints looked like. I learned what the pheasant hawk looked like and what a downy woodpecker looked like. I also learned what kinds of trees are found all over Alberta.

What I liked about Bird School was that everything there was natural and untouched. Like when my friend and I saw a hurt duck and we ran to tell Roland, but he said that we couldn't help it. I was disappointed at first because I didn't see why I couldn't help. But now I understand that was a part of nature. That was why we didn't feed the birds or why we didn't pick any of the plants—because all these things are a part of nature and everything there may need it to survive.

—Faaiza, Grade 5

- Today I saw many chickadees and I saw two beautiful woodpeckers. They were black and white and speckled. On their foreheads they had a crest of red there. The occasional Canada goose flew by. Living here must be wonderful.

This is a way to relax and really think about what matters to a person and to realize what nature has to offer. The slow moving breeze and the crisp, cool air moving about with a small stream of water creeping toward a larger, more welcoming setting. Sometimes it's good to be alone, not having to worry about anyone or anything. Sure it is not exactly paradise, with the smell of yeast from the brewery, or the sound of jets flying over and the trains blowing their horns. But to know this is what our home used to look like and that it could be replenished with some care and effort brings a sort of peace to my mind. This is our home—and this is not: we are visitors here and we are owners. We share responsibility.

Peaceful, Quiet, Relaxing, Home.

—Katie, Grade 4

- This was a really worthwhile adventure for the children. My son enjoyed it so much he was quite disappointed it wasn't going to last forever. He learned a lot about what was going on around him. When he is at home now he is listening to sounds outside and trying to adapt to his community what he has learned. Thank you.

—Carole F., parent

- Thank you for all your hard work and planning that went into the organization of such a fabulous experience for the kids. Brendan came home every day full of stories of what he had seen and done. He continues to recite facts about birds and wildlife so you can be sure some things did sink in. Brendan, Dylan and Sean made a trip to the Bird Sanctuary last weekend because they missed it so much. Thank you so much again.

—Mandy E., parent

Children today spend excessive amounts of time indoors, engaged in activities that, for the most part, require little interaction. They do not have the first-hand experiences with nature that their parents or grandparents had. A high percentage of time both at school and at home is spent receiving information rather than exploring and building new understanding. At the Petro-Canada Bird School, children spend at least two-and-a-half to three hours each day immersed in the outdoor world of the sanctuary. They learn to slow down and deeply sense the sights, sounds and scents around them. They develop skills in reflective writing, sketching and observing and discover how to view learning as a life-long exploration.

As educators, we are charged with the responsibility of fostering attitudes of responsibility and stewardship for the world in which we live—without question a daunting task. Through its partnerships with teachers, parents, students and community sponsors, Campus Calgary's Petro-Canada Bird School makes all of this possible.

For more information on Campus Calgary or Petro-Canada Bird School, visit their website at: www.campuscalgary.ca.

References

- Pooley, J.A., and M. O'Connor.
"Environmental Education and Attitudes: Emotions and Beliefs are What is Needed." *Environment and Behavior* 32, no. 5 (2000): 711-723.
- Scott, W., and C. Oulton.
"Environmental Education: Arguing the Case for Multiple Approaches." *Educational Studies* 25, no. 1 (1999): 89-97.

—Cathy Cochrane is the assistant director of the Campus Calgary Chevron Open Minds program in Calgary.

—Kym McCulley is the program coordinator for the City of Calgary Parks and Recreation: Public Education.



Envisioning Environmental Education

Rebecca Lippiatt-Long

“Although all visions come with a special language and terminology, most environmental educators have one goal in mind: an ecologically literate and competent society, driven by awe and delight at the beauty and bounty of our world, respecting all forms of life.”

—Ann Jarnet, senior advisor,
Environmental Education
Environment Canada

The United Nations Conference on Environment and Development took place in 1992 in Rio de Janeiro, Brazil. At this conference, 178 countries, including Canada, signed an agreement called Agenda 21. Chapter 36 of this agreement recognizes the vital importance of education to environmental preservation.

Policy implementation moves slowly and is often contradicted by regional issues such as debt reduction. In Canada, the task of achieving international education goals is made more difficult by the jurisdictional nature of education. In addition to the bureaucratic divisions of education are the ideological divisions. Many diverse groups deliver environmental education—from a grassroots organization to a foreign-owned logging company—and the goals of these organizations

are very different. One group may be fighting to save a small piece of native prairie; another might be trying to maintain employment in the resource industry while conserving the environment. Environmental education is extremely fragmented across Canada as a result of these bureaucratic and ideological differences, and to date there has been virtually no mainstreaming of environmental education.

That may change. In the attempt to honor the Agenda 21 commitments, the government of Canada has spent the last two years consulting with educators, students, parents and community members to find out what the public believes needs to happen in environmental education. In response to this consultation, a national strategy on environmental education and sustainability is being formed. Environment Canada has released a document entitled “What We Heard: a Report on the 2000–2001 National Consultation on Environmental Education and Sustainability.” The table accompanying this article summarizes what Canadians want to see in environmental education.

In addition to the public consultation process, Environment Canada hosted an online colloquium

in 1998 to assist with the implementation of Agenda 21. Educators from countries as diverse as Hungary and Mexico contributed their expertise. In this colloquium, a great deal of attention was given to the terminology used in environmental education. The concept of *sustainable development*, one of the most common references in mainstream environmental education, was challenged by more than one author. Some critics argue that trying to protect the environment while exploiting natural resources is an oxymoron. Other points of view contend that we must find ways to preserve the environment within existing economic systems. Other articles in the colloquium addressed such topics as international and indigenous issues; ecopsychology; the need for participatory and nonhierarchical education plans; resisting dogma and totalitarianism in education; recognizing that humans do not and cannot manage the earth; and the need to avoid placing too high a burden on the children we are trying to assist.

It may take years for environmental education to be standardized across Canada. Educators, students, parents and community members must be involved in the process. We are all

responsible for what our children learn. Take this opportunity to contribute.

Online Colloquium

http://www.ec.gc.ca/eco/education/index_e.htm

National Strategy on Environmental Education and Sustainability

http://www.ec.gc.ca/education/ee_introduction_e.htm

What Canadians Want in Environmental Education

Points of View and Visions

- Sustainable Development: development that ensures that the needs of the present are being met without compromising the ability of future generations to meet their own needs.

- Ecocentric: making room for such movements as deep ecology, ecojustice and bioregionalism, and a re-orientation of education to include a focus on a more-than-human world.
- Community or Citizen-based.

Needs for Environmental Education

- Grounding in Values.
- (Conversely) Value free or bias-balanced.
- Strategic alliance created to implement strategy.
- Formation of a national council in environmental learning.

Principals to Be Incorporated

- Empower all members of society.
- Life long learning.
- Adult environmental education, removing some of the burden from children, who do not have the political or economic power to make large changes.

- Environmental education must exist where we live, work and play.
- Environmental education must be multidisciplinary, cross-sectorial and multi-institutional.
- Integration of different modes of understanding that respect people's capacities, abilities, level of commitment and engagement.
- Inclusion of traditional knowledge.
- Inclusion of local knowledge.
- Honor intergenerational approaches.
- Hands-on learning.
- Reflect Canadian values, diversity, and environmental and sustainability issues.
- Reflect global values, diversity, and environmental and sustainability issues.

Rebecca Lippiatt-Long works on The Earth Challenge Project as a research associate. She also writes for Our Voice: the Spare Change Magazine. Pursuing social and environmental justice are high priorities in her work.

“One shouldn't be learning about the environment, but rather learning environmentally.”

Munju Ravindra, Parks Canada

“All educators should become environmental educators.”

Darren Thomas,
member of the Youth Round Table
on the Environment, Manitoba

Putting the Multiple Intelligences Theory Into Practice

by Phyllis Chmiliar

This article was originally published in Vol.2, no.2 of SAGE Words, the newsletter of the Gifted and Talented Education Council of the Alberta Teachers' Association.

The theory of multiple intelligences was developed by Dr. Howard Gardner, an educational psychologist at Harvard University. He has written numerous books and articles on the theory over the past two decades and has co-authored several books that demonstrate the application of the theory in the classroom. Dr. Gardner's theory diverges from the traditional definition of intelligence which views intelligence as simply having the ability to answer questions on an intelligence test. According to Gardner (1983), intelligence is the ability to solve real-life problems, the ability to find and create problems and the ability to offer a product or service that is valued by others. Gardner states that the act of problem solving can range from creating an end for a story to anticipating a move in chess, and that products can range from scientific theories to musical compositions. Intelligence is the ability to solve problems in many ways and to apply learning to real-life situations.

Gardner refers to strengths and talents as intelligences. His theory states that the brain can analyze eight

or more distinct intelligences, and that each person possesses varying amounts of these intelligences and each has different strengths. The intelligences are tools for learning, problem solving and creating (Campbell, Campbell and Dickinson 1999).

Gardner identifies and describes the intelligences in *Frames of Mind: The Theory of Multiple Intelligences* (1983). Other authors, such as Campbell, Campbell and Dickinson, in *Teaching and Learning Through Multiple Learning Intelligences* (1999), further describe the intelligences, including Gardner's new intelligence, the naturalist. The following is a description of the intelligences:

- *Linguistic intelligence* consists of the ability to think in words and use language to express and appreciate complex meanings. Authors, poets, journalists, speakers and newscasters exhibit high degrees of linguistic intelligence.
- *Logical-mathematical intelligence* makes it possible to calculate, quantify, consider propositions and hypotheses and carry out complex mathematical operations. Scientists, mathematicians, accountants, engineers and computer programmers all demonstrate this intelligence.

- *Spatial intelligence* involves the capacity to think in three-dimensional terms, as used by sailors, pilots, sculptors, painters, and architects. It includes mental imagery, spatial reasoning, image manipulation and external and internal imagery, and involves perception with color, line, shape and space.
- *Bodily-kinesthetic intelligence* enables one to manipulate objects and fine-tune physical skills. It is evident in athletes, dancers, surgeons and craftspeople. In Western societies, physical skills are not as highly valued as cognitive ones; elsewhere, the ability to use one's body is both an important feature and often a necessity for survival.
- *Musical intelligence* is evident in those with a sensitivity to pitch, rhythm and tone. Those demonstrating this intelligence include composers, conductors, musicians, critics and instrument makers, as well as sensitive listeners.
- *Interpersonal intelligence* is the capacity to understand and interact effectively with others. It is evident in those who are successful teachers, social workers, actors or politicians. Interpersonal intelligence enables

one to understand and communicate with others, noting differences in mood, temperament, motivation and skill.

- *Intrapersonal intelligence* refers to the ability to perceive an accurate model of one's self and to use such knowledge in planning and directing one's life. People with strong intrapersonal intelligence often specialize as theologians, psychologists and philosophers.
- *Naturalist intelligence* consists of observing patterns in nature, identifying and classifying objects and understanding natural and human-made systems. Skilled naturalists include farmers, botanists, hunters, ecologists and landscapers.
- *Spiritual intelligence* is one of the intelligences Gardner is currently exploring. It consists of one's inner feelings and emotions and involves individual spirituality.

Important points in the multiple intelligences theory are that:

- Each person possesses all of the intelligences.
- Most people are capable of developing each of the intelligences to an adequate level of competency.
- Intelligences usually work together in complex ways.
- There are many ways to be intelligent within each category. (Armstrong 1994)

Students use these different ways of processing information when they are learning. Being aware of the intelligences helps teachers better understand the unique abilities of their students and to provide different teaching styles to accommodate the different intelligences.

Schools across North America have been successful in applying the theory and implementing multiple intelligences programs in their schools. Educators have determined that curriculum and teaching strategies need to be designed so that all students can use their strengths in the intelligences to learn and succeed.

There are many ways to interpret and implement the theory. Educators can implement multiple intelligences with thematic units. Themes integrate curricular areas while allowing students to use their multiple intelligences in practical ways. Lessons are designed so that the students are able to learn in various ways and are able to express what they know in several ways.

Learning centres, or activity stations are developed, based on the intelligences. The stations include activities that are based on the curriculum, while the materials placed at each station relate to the intelligence. Multiple intelligences learning centres help develop in the students an increase in responsibility, self-direction and independence.

Project-based programs use multiple intelligences to provide a framework for students to develop in-depth projects. Multiple intelligences are used to find information and explore new learning and understanding. The students research a topic, create a product using all or several of the intelligences and then give a presentation. Teachers collaborate to plan the topics when the project encompasses all the academic subjects. Students develop respect and understanding for their peers as they realize that everyone has unique and diverse intelligences.

Whether an educator chooses to implement a multiple intelligences program through work centres with multiple intelligences activities, thematic units using multiple intelligences or a project-based approach, the result is enriched instruction, intellectual diversity and respected learning.

To implement a multiple intelligences program, it is necessary to envision how such a program would operate. One possibility is to develop a program that has already been successful in another school. Another possibility is to incorporate ideas and strategies from different models. A combination of the different methods that would best suit the needs of the particular school would be an ideal way to implement the program.

The initial step in developing a school wide multiple intelligences program is to inform the administration, staff and parents about Gardner's theory of multiple intelligences. It is necessary to obtain administrative support. A presentation is an excellent means of divulging the concept and creating an interest in the program among the teaching staff. During the initial steps of implementation, establish a multiple intelligences school team consisting of stakeholders, administrators, the multiple intelligences program coordinator, teachers, parents and students, and select a chairperson—usually the coordinator. Develop a plan for implementing the program and establish the objectives, which may include:

- Teachers becoming familiar with all the intelligences and being able to identify them in their students.

- Teachers forming instructional strategies to develop lessons using multiple intelligences.
- Students participating in activities that teach them the multiple intelligences.
- Students participating in activities that develop their strengths in the intelligences.
- Students becoming aware of the intelligences they have.
- Students celebrating their learning by presenting their projects to others.

It is important to provide professional development about each of the intelligences, allow teachers to identify their own intelligences as well as their students', and facilitate teachers in using teaching strategies that daily employ the multiple intelligences. Teachers need to be empowered to deliver the program to their students. Professional development sessions may include formal presentations, videos, study groups, handouts, discussion and planning activities. Videos can be borrowed from the ATA library.

When students identify their strengths, they extend learning to further develop these talents. A school program that focuses on multiple intelligences encourages students to explore their abilities. It provides the framework for each student to exercise and develop all of their strengths and talents. With a multiple intelligences program, student achievement increases and self-esteem is enhanced. Students feel accepted and valued. They become more tolerant and accepting of others because they see that everyone is valued and that everyone has talents and strengths in different areas.

An important aspect of the program is to celebrate student learning. This can be achieved by providing the opportunity for students to present their products and activities to other students and share their learning with each other.

The benefits of a multiple intelligences program include the following:

- Student academic achievement improves.
- Teaching skills are enhanced.
- An enriched learning environment is provided for all students.
- Individual talents are identified and nurtured.
- Student self-esteem is enhanced.
- All students develop and apply new skills.
- A framework is provided to meet the needs of all students and consider different learning styles.
- Students develop increased responsibility, self-direction and independence.
- Cooperative learning skills improve.

A multiple intelligences program empowers students to fully develop their strengths and talents. Such a program will develop a sense of accomplishment and self-confidence in staff and students and, most importantly, promote success.

References

- Armstrong, T. *Multiple Intelligences in the Classroom*. Alexandria, Va.: ASCD, 1994.
- Association for Supervision and Curriculum Development. *The Multiple Intelligence Series*. Alexandria, Va.: ASCD, 1995.
- Blythe, T. and H.Gardner. "A School for All Intelligences." *Educational Leadership* 47, no. 7 (April 1990): 33-37.

Brualdi, A. "Multiple Intelligences: Gardner's Theory". *ERIC/AE Digest*, www.ericae.net/digests/tm9601.htm (September 1996).

Campbell, B. "Multiple Intelligences in the Classroom". *In Context Quarterly* 27 (Winter 1991): 12-15.

Campbell, B., L. Campbell and D. Dickinson. *Teaching and Learning Through Multiple Intelligences*. Boston: Allyn & Bacon, 1999.

Gardner, H. *Frames of Mind: The Theory of Multiple Intelligences*. New York: Basic Books, 1983.

Gardner, H. *Multiple Intelligences: The Theory in Practice*. New York: Basic Books, 1993.

Lazear, D. *Eight Ways of Knowing: Teaching for Multiple Intelligences*. Arlington Heights, Ill.: SkyLight Training and Publishing, 1999.

Lazear, D. *Eight Ways of Teaching: The Artistry of Teaching with Multiple Intelligences*. Arlington Heights, Ill.: SkyLight Training and Publishing, 1999.

Phyllis Chmiliar has been involved in gifted education for several years. She is currently assistant principal and special needs facilitator of St. Luke School.

Features

Resource Feature

A New River Monitoring Website

The Alberta RiverWatch Science Program has launched a new website effective June 4th. The upgraded website was announced in conjunction with an environment week celebration marking the 15,000th RiverWatch participant. The site address is www.riverwatch.ab.ca.

Field Trip Support

The RiverWatch website offers state-of-the-art assistance to secondary science students for the time before and after a day spent monitoring water quality along their local river. The site-features include topics such as planning a river field trip and how to sample dissolved oxygen, phosphates and invertebrates; teacher and student information; interactive quizzes and surveys; data entry interface; charting; maps and a discussion board.

Interactive Data Entry and Charting

Data storage and timely presentation are troublesome obstacles for any organization involved in river monitoring. The RiverWatch site is highly interactive and features a data entry interface that immediately generates charts. The charting feature is a creative adaptation of software recently designed to monitor personal stock-market portfolios. RiverWatch data is plotted for various sections of river over the length of a season in a particular year. Environmental trends become evident when sites upstream and downstream of a source of pollution are compared.

Floating Laboratories

RiverWatch is a unique education program that uses large inflatable rafts equipped as floating laboratories. Each raft accommodates 15 people for a 10 km river trip. Shoreline stops are made upstream and downstream from a wastewater treatment plant in order to test water chemistry and collect aquatic invertebrates. Monitoring data collected during the trip is then entered into the website by the students back at school. The data is then analyzed to answer the question, "How healthy is your river?"

Award-Winning Education Program

The RiverWatch Science Program is especially well suited to Grade 8 and 9 science classes as well as Biology 20. The program began in 1995 and is now offered in a dozen different towns and cities on eight different rivers in Alberta. RiverWatch was recognized with a 1997 Prime Minister's Award for Teaching Excellence.

Partnerships

RiverWatch enjoys a good working partnership with wastewater treatment facilities around Alberta, especially with the Bonnybrook Wastewater Treatment Plant in Calgary and the Gold Bar Wastewater Treatment Plant in Edmonton. A home base for RiverWatch operations is generously provided at the Sam Livingston Fish Hatchery in Calgary and the Gold Bar Wastewater Treatment Plant in Edmonton.

Equipment Sponsorship

RiverWatch operates each year as a user-pay field trip; the original cost of equipment is provided by

several foundations, corporations and governments. Major funding was provided by Environment Canada EcoAction, Alberta Sport Recreation Parks and Wildlife Foundation, Canada Trust Friends of the Environment Foundation, Alberta Ecotrust Foundation and the Shell Environmental Fund.

Website Sponsorship

The RiverWatch website was a labor of love and three years in the making. RiverWatch volunteers and staff provided the written content, and a professional

web development company was hired to construct and design the site. The cost of the professional services was kindly sponsored by Alberta Ecotrust Foundation, Eastern Irrigation District and EPCOR.

Ongoing Work

A website is never finished. Fine tuning and school testing of the existing presentation is already under way. If you have comments, suggestions or contributions, RiverWatch would be pleased to hear from you at riverwatch@cadvision.com.

“Education, including formal education, public awareness and training should be recognized as a process by which human beings and societies can reach their fullest potential. Education is critical for promoting sustainable development and improving the capacity of the people to address environment and development issues. While basic education provides the underpinning for any environmental and development education, the latter needs to be incorporated as an essential part of learning. Both formal and non-formal education is indispensable to changing people’s attitudes so that they have the capacity to assess and address their sustainable development concerns. It is also critical for achieving environmental and ethical awareness, values and attitudes, and skills and behavior consistent with sustainable development and for effective public participation in decision-making. To be effective, environment and development education should deal with the dynamics of both the physical/biological and socio-economic environment and human (which may include spiritual) development, be integrated in all disciplines and employ formal and nonformal methods and effective means of communication.”

This is a quote from the original document Agenda 21: Report of the United Nations Conference on Environment and Development (Rio de Janeiro, 3–14 June 1992) Section 36: Reorienting education towards sustainable development: Basis for action 36.3. (document available on the Internet at http://www.ec.gc.ca/education/ee_info_e.htm)

Book Review

Angela Payne

***The Courage to Teach,*
by Parker J. Palmer.
Jossey-Bass, 1998.**

This article was originally published in the June 2001 edition of The Alberta Counsellor, the newsletter of the ATA's Guidance Council.

After an afternoon of listening to a group of teenage girls explain why and how they started a verbal war among themselves, I received a phone call from a teacher friend inviting me to a book club meeting. My friend had recently begun a one year secondment at the University of Lethbridge and was interested in getting a group of teachers, counsellors and administrators together to review Palmer's book *The Courage to Teach*. Her enthusiasm for the book was infectious, and as I was feeling somewhat disheartened by my afternoon in the counselling office I agreed to attend the meeting the following night.

I found the book to be a breath of fresh air. Palmer states that people who go into education are interested in learning, people and life. However, unmet expectations and frustrations with curriculum, authority structures and student behavior cause some educators to begin to live fraudulent lives. Palmer asserts that educators find themselves exposed at the crossroads of public and private life, fearing the daily revelation of themselves: who they are, what they believe in and how they learn and teach. They become fearful of the judgment they feel from students, peers and themselves. This slowly erodes the hearts of teachers and thus the heart of teaching.

The antidote to this erosion, is to "hear students into speech," and to bravely look at what makes us fearful of knowing ourselves, the subject matter and our students better. Palmer speaks of learning about the world as a communal act. "Reality is a web of communal relationships, and we can know reality only by being in community with it" (p. 95). He talks about using the microcosm to teach ourselves and our students about the macrocosm, which is truth. Palmer discusses the disfavor with which the word *truth* has been met in other literature and defined the quest for truth as "an eternal conversation about things that matter, conducted with passion and discipline" (p. 104). This is a noble goal for both teaching and counselling.

As the book club met and discussed each chapter, it was clear that not all members agreed with Palmer's words, although everyone was captivated by the ideas presented. The conversation that ensued was stimulating and rewarding. As Parker promised, I felt refreshed by the opportunity to participate in a community of learners that enjoyed conflicting opinions, new ideas and a chance to engage with imperfect text.

It is possible that the girls were afraid of revealing themselves every day in a place where "public and private worlds meet". They are in the process of creating a community that is teaching them how to treat each other, how to talk about themselves, how to understand their experience and how to take that understanding into their future lives. My time with these girls is at the heart of teaching. Palmer's book helped me remember why I became a counsellor. *The Courage to Teach* is worth a read.

What's Happening (and Where)

GEOEC Conference: On the Brink: Educating for Hope May 2–5, 2002, in Edmonton

On the Brink: Educating for Hope is the theme for this year's annual GEOEC conference. Learning Network's CIDA-funded global education program is a partner in the conference with Executive Director Earl Choldin serving as conference chair.

The keynote speakers will be Naomi Klein, activist, journalist and author of *No Logo*; Vandana Shiva, physicist and eco-activist from India; Lloyd Axworthy, director of the Liu Centre for the Study of Global Issues and former Canadian Minister of Foreign Affairs; and Patrick Morrow, photo journalist and mountaineer, well known for successfully climbing Mount Everest.

Naomi Klein works as a journalist and author. *No Logo*, her life-changing book about globalization, gives voice to those who believe in an alternative to our current system, where corporations hold the power.

Mr. Axworthy was instrumental in gaining Canada's membership in the UN Security Council, banning anti-personnel landmines through the Ottawa Convention and raising the issue of international human security. His current work "hopes to find a better understanding of the effects of climate change, increasing wealth disparities, global economic practices, population growth and health imbalances on sustainable stewardship of the natural and social environment." Mr. Axworthy was nominated for the Nobel Peace Prize in 1997.

Dr. Vandana Shiva "saves seeds, fights multinationals and preserves indigenous knowledge" through writing, speaking, doing research and working from the grassroots to the institutional level. Shiva connects globalization, environmentalism, democracy and gender in her passionate critique of contemporary challenges.

In 1993, her work was recognized with the Right Livelihood Award, also known as the alternative Nobel Prize. She directs the Research Foundation for Science and Technology and Natural Resource Policy in India.

Patrick Morrow became well known in 1982 when he climbed Mount Everest. He continued climbing around the globe, completing the "grand slam of mountaineering," or the Seven Summits. His message about our responsibility is clear: "The people who go out and discover precious places have a personal stake in seeing that they remain that way. By experiencing a place, you become its guardian."

The University of Alberta will provide the site for the conference, with Edmonton's beautiful river valley and Hawrelak Park providing outdoor venues. The conference includes keynote presentations, workshops, outdoor pursuits, hot issue panels, entertainment and great food. New to the format this year are reflective activity groups, which will provide participants with a place to reflect on conference experiences, question and debate issues and strategize for opportunities to take action.

The conference themes will include the environment, sustainability, international development, human rights, peace, educating for hope, global community, outdoor education, indigenous peoples, spirituality, diversity and anti-racist education and transformative learning.

The registration fee is \$215. Early bird registration is available until December 31st for \$175, and includes full conference and GEOEC membership. Student rates are \$50 for high school students and \$100 for university and college students. A full food package will be available.

To register, visit www.geoec.org or www.learning-network.org, or phone the Learning Network at 1-888-945-5500.

Remember that last year's conference was sold out so register early to avoid disappointment.

Global, Environmental & Outdoor Education Council

Mission Statement

To promote involvement in quality global, environmental and outdoor education

Objectives

- To provide a vehicle for Alberta teachers for professional development and communication in global, environmental and outdoor education
- To study and make professional recommendations about global, environmental and outdoor education issues
- To network with other provincial organizations that have similar concerns

Membership

- Regular member—Members of the Alberta Teachers' Association, as specified in ATA bylaws, are entitled to full privileges of council membership including the rights to vote and to hold office.
- Student member—Student members of the ATA are entitled to all benefits and services of council membership except the right to hold office.
- Affiliate member—Persons who are not ATA members as specified by ATA bylaws receive all the benefits and services of council membership except the rights to vote and to hold office.

Publications

- The GEOEC recognizes the wide range of interests among members and strives to foster the exchange of

ideas and provide information and articles relating to the various components of the elementary and sec-ondary curricula through publication of *Connections*.

Annual Conference

- The annual conference features a blend of activities, indoors and outdoors, ranging from hands-on workshops to social gatherings. All grade levels are represented in sessions. The emphasis is on practical information and application. The annual general meeting of the GEOEC is held in conjunction with the conference.

Executive

- Volunteer teachers are elected to serve on the GEOEC executive.
- Contact the president of the GEOEC through the ATA office if you are interested in running for a position.
- Elections take place at the annual general meeting during the conference.

Environmental Action Representatives (EARs)

- News to and from your provincial area is relayed through a person acting as a GEOEC representative for that school area.
- If you are interested in being an EAR for your school, please indicate so on your membership application.

Enviroshops

- Various activities and workshops organized by the council
- Presentations in different locations around the province

JOIN NOW AND BECOME INVOLVED IN THE GLOBAL, ENVIRONMENTAL & OUTDOOR EDUCATION COUNCIL

Name _____ Alberta Teaching Certificate No. _____

Address _____ Postal Code _____

School or Employer _____ Grade Level/Specialty _____

New Membership

Renewal of Membership

\$25.00 Regular and Affiliate Membership

\$12.50 Student Membership

\$45.00 2-year membership

\$30.00 Subscription for nonmembers

\$65.00 3-year membership

I would be interested in serving as an Environmental Action Representative Yes No

Make cheque payable to the Alberta Teachers' Association and mail it with the application to the Association at 11010 142 Street NW, Edmonton T5N 2R1.