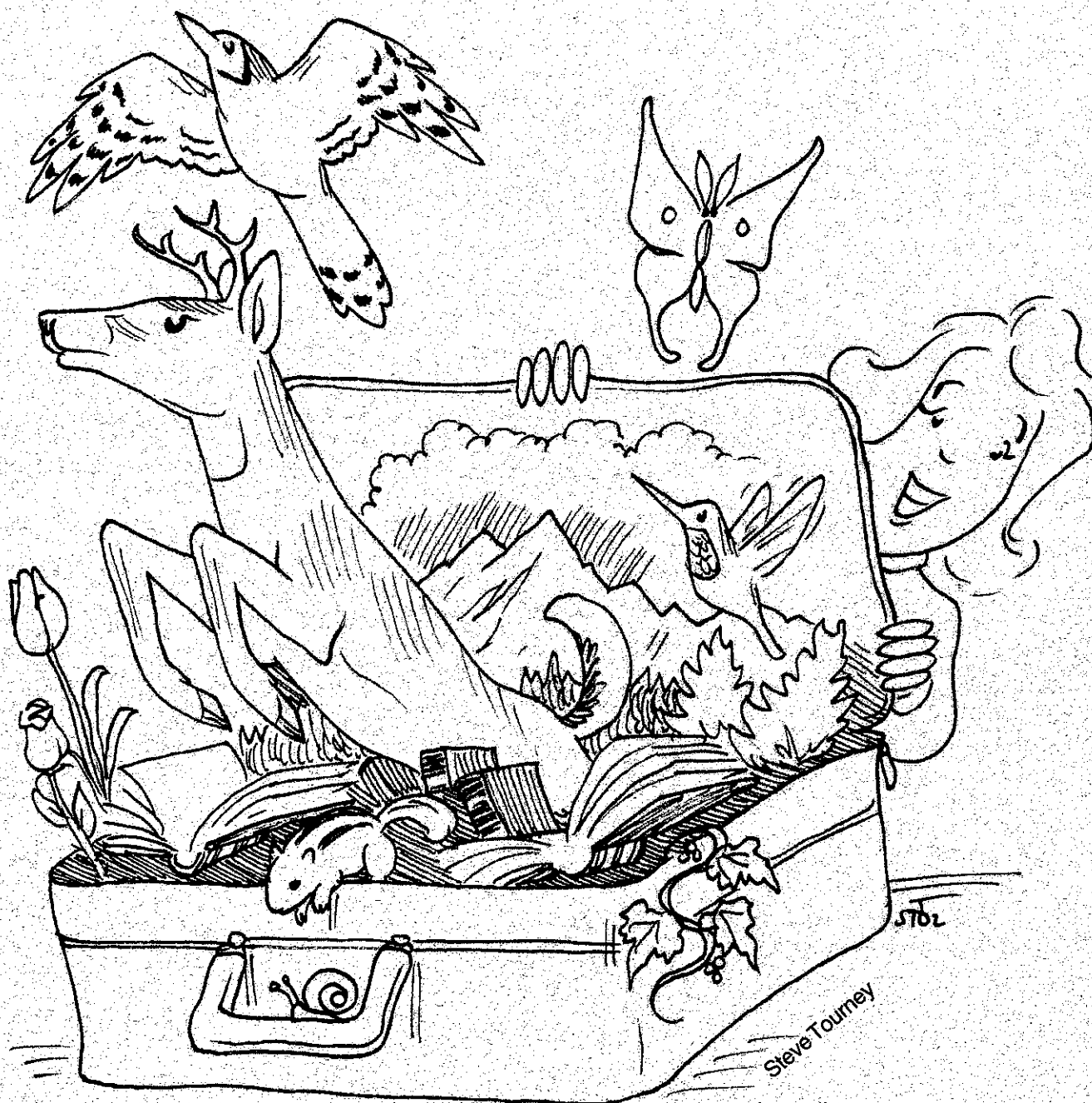
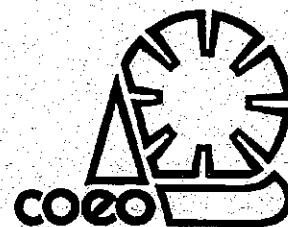


Pathways

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Spring 2002, 14 (2)



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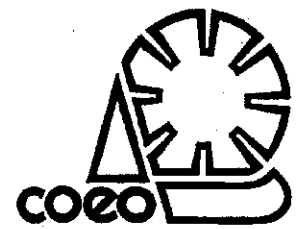
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e-mail: barbara_bahnmann@hotmail.com

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Pathways Editorial Board

Co-Chair: Bob Henderson
 Dept. of Kinesiology,
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 (B) 905-525-9140 ext. 23573 (F) 905-523-6011
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Co-Chair: Connie Russell
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 Lakehead University
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 33 Charleston Rd., Toronto M9B 4M8
 (H) 416-576-6039
 e-mail: hero@backpacker.com

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 21-94 Beck St., Cambridge N3H 2Y2
 (H) 519-650-1183
 e-mail: jriviera32@rogers.com

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 RR #4, Shelburne L0N 1Z8
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 e-mail: mike.morris@ntel.tdsb.on.ca

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 (B) 807-343-8843 (F) 807-346-7836
 e-mail: tpotter@sky.lakeheadu.ca

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 707-124 Springfield Road, Ottawa K1M 2C8
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 (B) 416-207-8864 (F) 416-207-0467
 e-mail: rholmes@yorku.ca

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Editor's Log Book

As I write this opening note the days have just now started to warm up. This long cold snap has hardly been conducive to thinking about spring activities, such as prepping the canoe and waterproofing the tent for some canoe tripping on the long weekends. And yet, faster than you can say "spring fever" (or is that "beaver fever"?), the hot summer weather will be upon us and we will all wonder how the winter went by so quickly.

In this issue we have a mixed bag of goodies for you, including articles such as "Greening from the Top Down" by Erica Oberndorfer, "The Algonquin Mapping Activity" by Linda Leckie, and "Research on the Outward Bound Process: Implications for Practice" by Marcia McKenzie. We also have several newsy tidbits in the Tracking section. The big upcoming event to remember is, of course, the fall conference in Tobermory on the tip of the Bruce Peninsula. To my knowledge, it is the first time the fall conference has been held there, and the location alone is enough to make me want to go. I have no doubt the conference committee is planning a stellar program for us all.

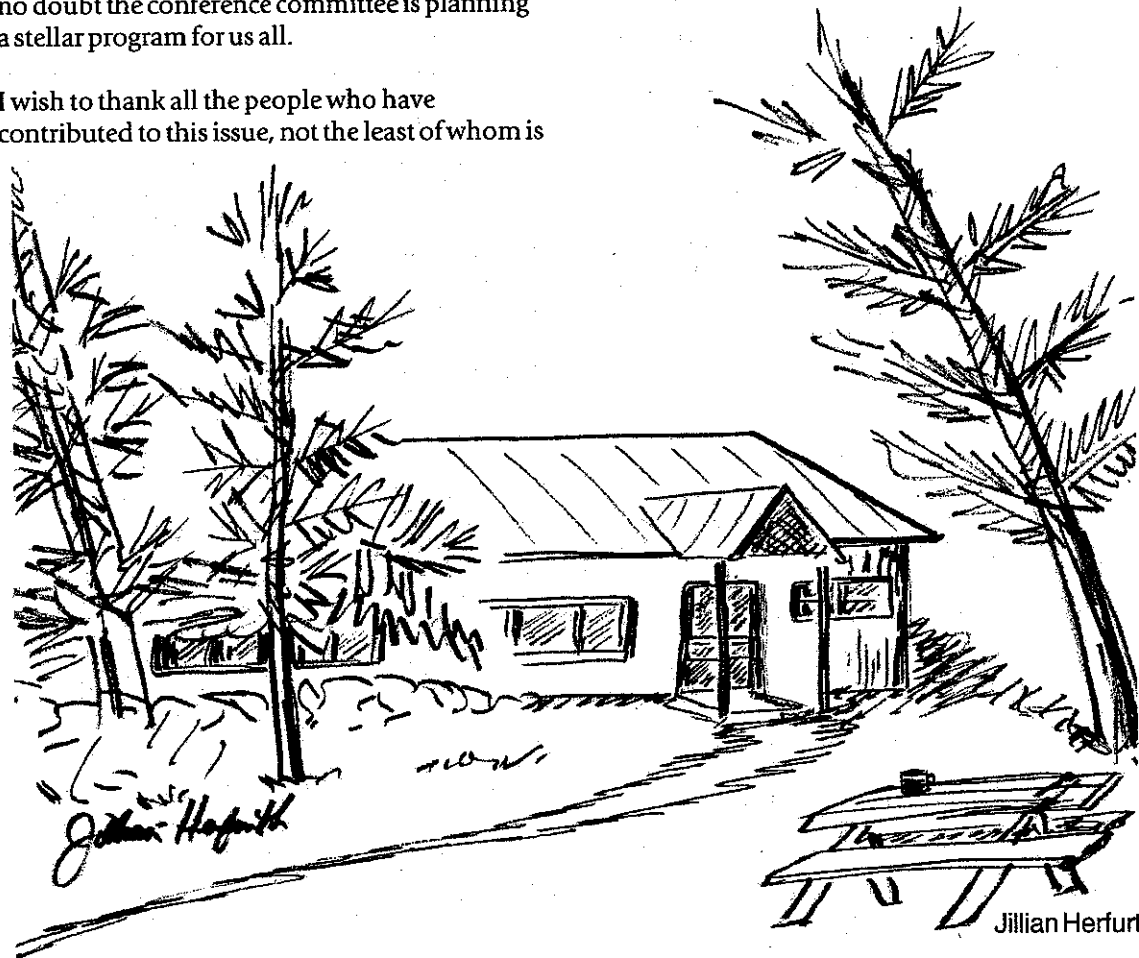
I wish to thank all the people who have contributed to this issue, not the least of whom is

our managing editor, Randee Holmes. When the going gets tough, she is the glue that holds this endeavour together. Thanks, Randee! Others who also help out and, in fact, lead most of the way are Connie Russell and Bob Henderson. Even when their names do not appear as authors in a given issue, you can be sure each had a hand in getting that issue to print.

We have several writers new to *Pathways* in this issue; for others, it has been a very long time since they last contributed. I urge you to read all the articles. At *Pathways*, we thrive on new ideas and fresh perspectives.

Well, this is my short and sweet entry in the Editor's Logbook. I hope you have enjoyed it. Please give this issue a good read and share your copy with anyone else you feel will benefit from it. Remember, as with any organization, our strength is in our members. Best wishes to you all.

Jillian Herfurth
Guest Editor



Jillian Herfurth

You are receiving two copies of *Pathways* this month, in the hope that it will help you to be politically active. There was such a great deal of demand generated by the topic in Volume 14 (1) that the Board of Directors authorized the reprinting of that issue. The intent was to give every member a chance to share this document with someone they felt would benefit from reading it or someone whose belief in the need and value of outdoor environmental education programming might be reinforced.

I have spent a great deal of time (wearing my Vice-Principal's hat) dealing with the realities of the enormous programming cuts that the compliance budget will cause. For the district school board in which I work, the entire residential program is on the line.

So densely populated, Toronto offers limited greenspace and, for a great many children, limited opportunities for a safe outdoor experience. And yet it is here that the programs based on using the natural environment to provide opportunities for learning critical job and life skills such as teamwork, co-operation and creativity are listed for closure.

If we neglect to teach our children to respect the land, the environment and each other, how can we expect them to become adults who care about the world around them?

Please take the time to share your additional copy of *Pathways*, Volume 14 (1), or portions of it. Help remind those who have forgotten what the environment can teach us.

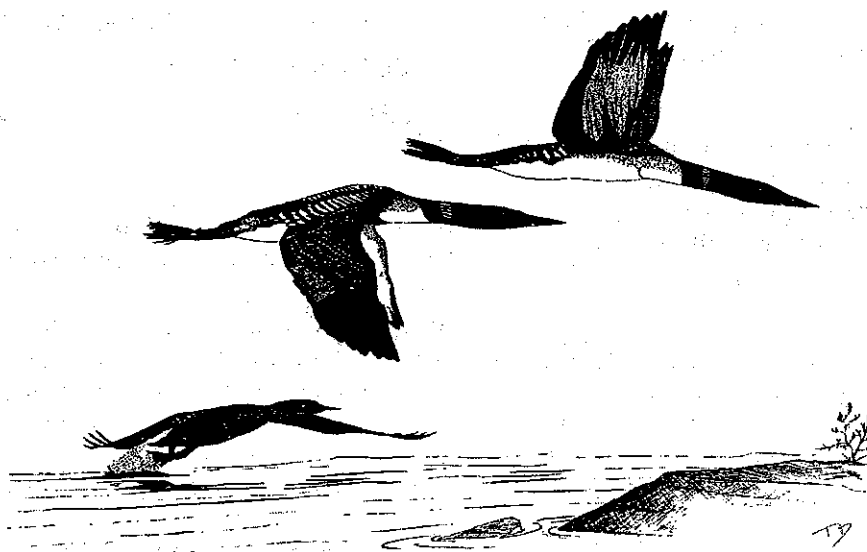
*Yours in the outdoors,
Mary Gyemi-Schulze
COEO President*

Board of Directors Meetings and Locations for 2001/2002

Date	Location	Time	Host	Focus
Thursday, September 12	Adventureworks	6:30 pm	Brian	Budget
Sunday, September 28	AGM	TBA		Agenda

Meetings will be potluck, unless otherwise stated. Please inform the host of your contribution ahead of time. Bring your own mug, planner and ideas.

Meetings are open to all members, so please encourage others to participate. It may be necessary on some occasions to hold a session "in camera" in the interest of privacy.



Research on the Outward Bound Process: Implications for Practice

by Marcia McKenzie

Outward Bound Canada is a not-for-profit adventure education organization that provides wilderness courses for a range of populations. It has the objectives of promoting "self-reliance, care and respect for others, responsibility to the community, and concern for the environment" (Outward Bound Canada, 2000, p. 1). Although course outcomes such as these are commonly reported as the results of adventure education programs, there has been little research to investigate how they are achieved. As a result, a research study was recently undertaken to explore the process by which Outward Bound Western Canada (OBWC)¹ students learn.

OBWC courses vary in length from seven to thirty-six days; are tailored for specific populations, such as adults, youth, "female survivors of abuse" (Women of Courage), and "youth at risk" (Vista); and, at the time of the study, were all set in the Coast Mountains of British Columbia. Students are grouped in patrols of up to ten people and two instructors. Courses include multiple days of backpacking/mountaineering, rock climbing, a one- to three-day solo experience, a final expedition, a ten-kilometre run, and, on longer courses, a one-day service project in the community. As courses progress students are given more responsibility, and instructors become less involved with the group.

Quantitative and qualitative data were gathered to examine the effects of various course components and student characteristics on course outcomes. Data were collected from

ninety-eight OBWC students through questionnaires, interviews, and observation, and from seven instructors through interviews. Twenty-eight course components (Table 1), as well as student characteristics such as gender, age, and population, were found to influence positive course outcomes and can be grouped into categories that contribute to students' learning: course activities, the physical environment, instructors, the group, and students' characteristics. Several course components were also found to negatively affect course outcomes.

The findings were analyzed and interpreted to generate theory grounded in the data, to provide suggestions for improved design and delivery of courses, and to develop ideas for future research. This article will focus on the implications of the study for practice at Outward Bound and other organizations.

"Achieving success and being challenged were found to cause the greatest increases in students' self-confidence and self-reliance."

Implications for Practice

Course Components that Contribute to Positive Course Outcomes

Interpretation of the theory and findings generated by this study suggests many potential implications for practice, both for management in their decisions about course design and instructor training, and for instructors in their decisions about course design and delivery.

A number of course components are particularly important in determining specific course

¹ Outward Bound Western Canada merged with the Canadian Outward Bound Wilderness School in 2000 and is now referred to as Outward Bound Canada – Western Operations. For the purposes of this article, the old name, Outward Bound Western Canada, will be used.

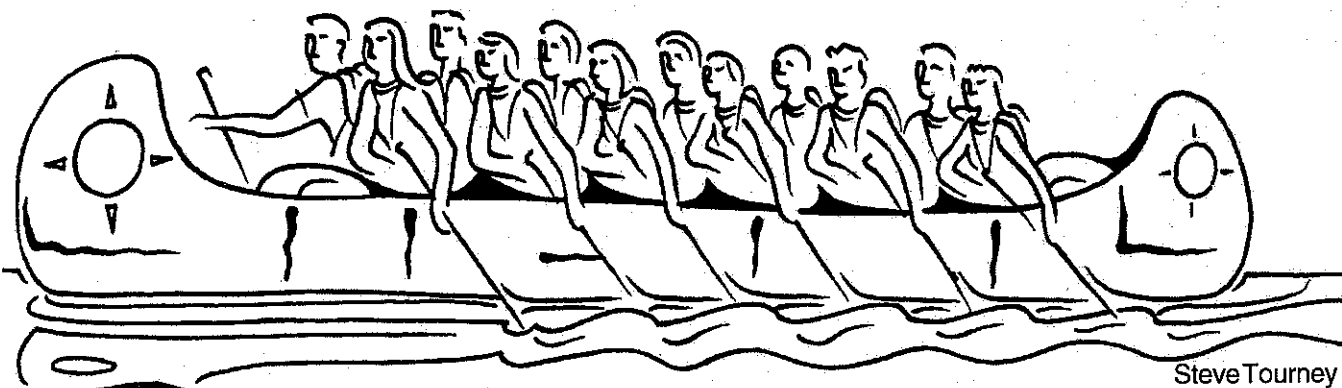
outcomes (Table 1). These include the "Solo," which had an impact on self-awareness; "Achieving individual success" and "Overcoming challenge," which had an impact on self-confidence and self-reliance; "Interacting with other group members," "Working as a group," and "Instructors as role models," which had an impact on interpersonal skills; "Working as a group" and "Taking care of others," which affected students' concern for others; and "Curricula presented by instructors" and the "Wilderness setting" affected students' concern for the environment.

Although many of these relationships may seem to stem from common sense, a more conscious awareness of these links on the part of management and instructors could result in even greater gains in the respective outcomes. Management can help instructors increase their awareness of these relationships and develop related skills, while instructors can take specific steps to improve course outcomes. For example, instructors may choose to introduce the solo to students as a time to increase self-awareness and distribute specific journal questions aimed at developing self-awareness; or instructors can actively foster the development of interpersonal skills by ensuring they are modelling good interpersonal skills themselves.

Achieving success and being challenged were found to cause the greatest increases in students' self-confidence and self-reliance. In contrast, failure in these components was found to decrease positive course outcomes. These results suggest that instructors should ensure that students are adequately challenged and achieve success in course

activities. Perhaps instructor training could include means of ensuring that all students are challenged, such as including incrementally increasing challenges and splitting up the group. Similarly, instructor training could include suggestions for helping students feel successful in all activities, such as appropriate framing and feedback techniques.

Interestingly, the study's findings regarding failure, personal choice, and goal-setting contradict the views expressed in the literature. While the literature indicates that these qualities improve course outcomes (e.g., Bandura, 1997; Dyson, 1995; Marsh, Richards, & Barnes, 1986; Meyer & Wenger, 1998; Schoel, Prouty, & Radcliffe, 1988; Witman, 1995), this study found they had a negative or minimally positive impact on course outcomes. While it is feasible that the results of this study are more accurate than the existing literature, these discrepancies could also be a result of the way failure, personal choice, and goal setting are approached or framed by OBWC instructors. This possibility has a variety of potential implications for management and instructors with respect to instructor training, course design, and course delivery. Because "failure" is sometimes unavoidable, instructors could improve their ability to reframe failures as learning opportunities, and therefore, as successes. Outward Bound Canada could also explore means of increasing students' awareness of choices they are continually making regarding their level of involvement in their courses. Finally, management and instructors could consider including goal-setting as a regular element of courses; developing students' goal-setting skills could help them feel empowered to achieve their goals in their home environments.



Steve Tourney

In contrast to the views of a number of OBWC instructors, the findings indicated that instructors are an important factor in determining course outcomes. Instructors were found to maximize the effectiveness of other course components by having appropriate expectations, giving encouraging feedback, and being competent. In addition, the data showed that instructors directly increased positive course outcomes as a result of their feedback, personalities, and impact as role models. Instructors' feedback was found to contribute to students' motivation (defined as a desire to learn and achieve), and instructors' personalities and position as role models were found to contribute to students' self-awareness, motivation, interpersonal skills, and concern for the environment. Most notable is the fact that both the quantitative and qualitative data indicated that as role models, instructors made a greater contribution to students' interpersonal skills than almost all other course components. In support of these findings, the qualitative data also suggested that instructors reduced positive course

outcomes when they demonstrated less-than-ideal interpersonal skills.

The findings of this study indicate how important it is for instructors to be aware that their feedback, personalities, and behaviours as role models affect course outcomes for students. With this knowledge, instructors could be more aware of their interactions with others and ensure that they are positively affecting students. Supervisor evaluations and instructor training could be useful in helping instructors achieve the types of feedback and behaviours that are most likely to positively affect students.

The qualitative data also indicated that the curricula presented by instructors increased students' concern for others and concern for the environment. Students indicated that curriculum on compassion, environmental impact, and natural history contributed to these course outcomes. Instructor training in these areas, and instructor commitment to teaching these topics, could further increase outcomes.

Table 1: Course Components Found to Contribute to Positive Course Outcomes

Qualities of Course Activities

Achieving success
Overcoming challenge
Learning new skills
Being responsible for oneself
Having fun

Specific Course Activities

Backpacking/mountaineering
Solo
Rock climbing
Leadership responsibilities
Camp set-up and cooking
Course-end run
Group discussions
Games and initiative activities
Service project
Final expedition

The Physical Environment

Wilderness setting
Unfamiliarity of the environment
Weather

Instructors

Instructors' expectations
Instructors as role models
Instructors' feedback
Instructors' competence
Curricula presented by instructors

The Group

Working as a group
Interacting with other group members
Relying on other group members
Taking care of others
Trying new behaviours

Note: Groupings of course components, as well as the course components within each grouping, are listed in the approximate order of the impact they were found to have on course outcomes (starting at the top of column one and ending at the bottom of column two).

Group discussions stand out in their apparent lack of direct impact on course outcomes. In the quantitative data, group discussions were ranked in the bottom eight out of twenty-eight course components for impact on self-concept, motivation, and interpersonal skills. In the qualitative data, only eleven students made comments indicating that group discussions had affected their self-awareness, self-confidence, or interpersonal skills. Instructors' comments ranged from views that group discussions did not increase positive outcomes, to views that they increased self-awareness and interpersonal skills. These results imply that perhaps group discussions on many OBWC courses are not as effective as they could be. Instructor training aimed at developing instructors' group-discussion skills could be useful in increasing the course outcomes achieved as a result of group discussions.

Service is also notable in its apparent negligible impact on students. Although it was rated ninth out of twenty-eight course components in its impact on interpersonal skills, service was mentioned in the qualitative comments of only three students. As indicated in the Outward Bound Canada mission statement quoted at the beginning of this article, compassion and service towards others and the natural world are important educational objectives on Outward Bound courses. The discrepancy between the findings and these objectives suggests that perhaps a renewed commitment is needed on the part of management and instructors to making service a substantial and meaningful aspect of courses.

Course Components that Can Negatively Affect Course Outcomes

The results of the study indicate that "Working as a group," the attitudes of other group members, and "Interacting with other group members" can decrease the positive course outcomes experienced by some students. Problems with other students not doing their share of the work, complaining, and being difficult to get along with were highlighted in the qualitative data as reasons for decreases in positive course outcomes. Instructors could help turn potentially negative experiences into increased positive outcomes by providing tools for students to work through such issues. For example, ensuring that a

chore roster is created and providing regular venues for students to express how others are affecting them could both empower students and help them realize the impact that their actions have on others.

Getting lost on the course-end run and having unsanitary or insufficient food were also found to reduce positive course outcomes. Preventing these logistical problems would be simple and could result in increased positive course outcomes for some students.

The Influence of Students' Characteristics

In the data on the impact of students' characteristics, the course component of "Relying on other group members" was found to have a greater impact on females than on males, on adults than on youth, and on Women of Courage than on women on public courses. This may be because some of these groups are less used to being supported by others than the groups with which they were being compared. These findings imply that it is important for instructors to step back when possible and allow group members to rely on one another.

Several other findings provide useful information for management and instructors planning courses for different genders, ages, and populations. The data suggested that rock climbing was particularly effective for females, and "Being responsible for oneself" was especially valuable for youths. The data also indicated that group discussions, the course-end run, and the solo had more of an impact on adults than on youth, and that good instructor role models were a key component of Women of Courage courses. These results can be taken into consideration in the planning phase of courses for special populations.

Conclusions

This article has attempted to provide an overview of the implications for practice of a recent study on the Outward Bound Canada process. For a more detailed account of the study's findings, please refer to McKenzie (2000). It is hoped that a clearer understanding of the process by which Outward Bound Canada students are learning will be beneficial in offering students more effective courses.

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Marcia McKenzie is a PhD candidate in Educational Psychology at Simon Fraser University in British Columbia. She is also an Outward Bound instructor. At present, she is travelling around Europe.



Marlon Mohamed

Greening from the Top Down

by Erica Oberndorfer

As I stand bundled in multiple layers of polypropylene, my breath forms a white cloud in the early morning light. Around me are high, rolling hills saturated with autumn colour and rich tones of evergreen, and far in the distance I can just make out the bright peaks of the snow-covered Alps. The view up here is great. I'm on a roof.

A roof? A school roof to be precise. Nestled in among the pastures, vineyards, and nature reserves of the Black Forest is the town of Aach, home to the Aach Grund und Hauptschule, an elementary school for children aged six to fourteen. The school is building a new gymnasium and I am here to outfit it with a green roof.

Now that I reflect upon it, I cannot say with certainty where I first heard about green roofs. Initially, I knew only the most basic of details: green roofs are roofs that have been outfitted with a layer of a soil-like substrate and plants. Expanding upon and refining this general notion required more research on my part, and such a research opportunity presented itself in a class on Urban Development and Policy Issues at McMaster University. I soon discovered the relative paucity of North American roof greening literature, and so began to tackle the roof greening resources that *did* exist in abundance. And with no small trepidation, I might add — they were all in German. Alas, all those hours of high school German spent in ignorant slumber!

Green roofs may be new to North America, but in Germany they are part of the everyday vocabulary. ("Dachbegrünung," roof greening, just rolls off the tongue. . .) The popularity of green roofs in Germany is such that one in ten roofs is of the living variety, and about 1 million square metres (10 million square feet) of new green roofs are installed every year. All levels of government subsidize the installation of green roofs: for example, the municipal government of

Aach is carrying the bulk of the school's new project.

Throughout my research, one roof greening firm was particularly helpful in providing me with information. Optigrün International AG is one of the oldest and largest roof greening firms in Germany, having been in the business for over thirty years. During the course of my correspondence with Optigrün, I began to wonder if I could possibly craft a unique learning experience for myself, a chance to improve my German and an opportunity to learn roof greening from the experts. I inquired if Optigrün offered internships.

" . . . green roofs can act as outdoor classrooms specializing in lessons of botany; ecology; water cycles and water-management processes; energy efficiency; and urban wildlife corridors."

Although Optigrün had no formal internship program as such, a placement was eventually created for me near Freiburg, in southern Germany, at a partner company called Bienger GmbH. Originally a landscaping company, Bienger GmbH has seen its involvement in the roof greening industry skyrocket over the last few years, as demand for green roofs in the region continues to grow. From 1996 to 2001, the company's roof greening revenue increased 1400%, and the total area of roofs greened per year currently exceeds 28 000 square metres.

My first taste of roof greening came with an installation atop a four-storey apartment building in a new development called Quartier Vauban.

The site was formerly home to a French army base and is now in the primary stages of becoming a burgeoning community of young families and abundant green space. Bike trailers abound, solar panels gleam from the rooftops, and families living in these mixed-use buildings can enjoy such amenities as organic bakeries and grocery stores on the ground floor of their residence. Nearly all of the apartments have green roofs.

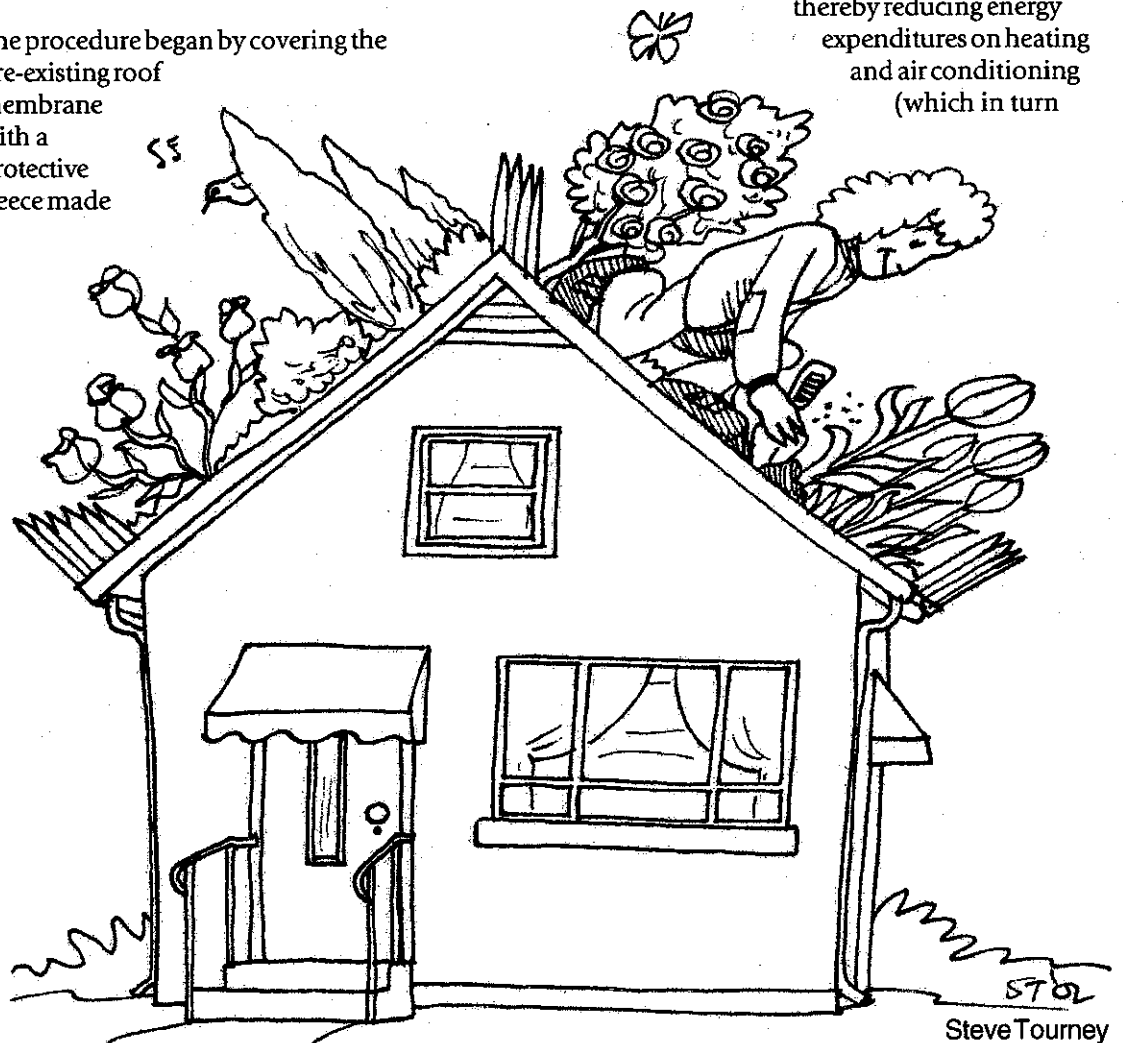
The green roof I installed at Quartier Vauban (there have since been many others) was of the extensive variety, a design typified by low weight, low maintenance requirements, and the vegetation's tolerance for extreme climatic conditions. An intensive green roof, by comparison, requires a deeper substrate, an irrigation system, and can consist of shrubs and even trees.

The procedure began by covering the pre-existing roof membrane with a protective fleece made

from recycled materials; this was then covered with a drainage layer of lava rock to a depth of 5 cm. Next, another layer of fleece was unrolled and topped with 5 cm of substrate composed of lava, humus, compost, split brick, expanded shale, and pumice stone. The vegetation layer came next, a mix of hardy alpine species of sedum and sempervivum, which was liberally sprinkled over the substrate and left to self-root. Finally, a 30 cm border of gravel was installed around the edge of the roof and around ventilation and drainage pipes to facilitate additional drainage. Most of the roofs I have subsequently greened have had fewer layers, consisting of only one fleece, substrate, vegetation, and gravel.

The benefits of green roofs are too numerous to be given more than a cursory mention here.

Green roofs improve insulation, thereby reducing energy expenditures on heating and air conditioning (which in turn



reduces dependence on non-renewable energy). The plants on a green roof improve local air quality by filtering carbon dioxide and particulate matter. Green roofs are unmatched in their capacity for storm-water management, and reduce runoff by up to 70%; the remaining 30% of water volume is released slowly after percolation and filtration. Furthermore, green roofs provide much-needed urban habitat for local wildlife and habitat corridors for migratory species: a roof above a parking garage in Germany was actually converted to a marsh, and it attracted nesting ducks!

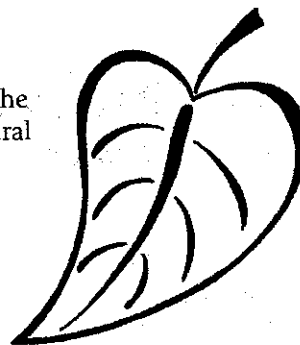
Although initially more expensive to install than a conventional roof, a green roof extends the lifecycle of the roof membrane by protecting it from UV rays and mechanical damage caused by extreme temperature fluctuations (an asphalt roof can reach temperatures of 60°C in the summer which is, as roof greening literature is apt to mention, hot enough to fry an egg). A green roof has twice the lifespan of a conventional roof and is therefore *less* expensive in the long run. And this does not even speak to the additional energy and water-management savings, not to mention less quantifiable benefits such as clean air and wildlife habitat.

Schools and green roofs are particularly compatible for a variety of reasons. Economically, substantial energy savings are necessarily attractive to school boards faced with constant budget cuts. Logistically, most schools are flat, one- or two-storey buildings, a structure that is very conducive to roof greening. Green roofs are aesthetically pleasing and, according to horticultural therapy, can contribute to lower blood pressure and a happier learning environment. A green roof on a school also creates the potential for rooftop agriculture — who knows if locally grown produce could improve cafeteria fare?

Most importantly, however, green roofs can act as outdoor classrooms specializing in lessons of botany; ecology; water cycles and water-management processes; energy efficiency; and urban wildlife corridors. Although the green roof at the school in Aach is inaccessible to the students, it is possible to build accessible green

roofs given certain safety measures and providing the roof has sufficient structural capacity.

Schools are hubs around which communities are based. As such, they are places of learning not just for the enrolled students but for local families, businesses, and civic workers. A school with a green roof would play a vital role in teaching others about this successful green building technology. If green construction is to become a standard practice rather than a peculiar novelty, the public needs to demand green roofs as an essential component of new buildings, from family homes, to industrial warehouses, to small carports. Right now, education and awareness are the most important factors in developing a green roof market in North America.



* * * * *

Standing on the roof, raking the substrate to an even thickness and shedding several layers of polypropylene in the process, I hear the recess bell and the excited shouts of kids interested in the developments happening on their roof. They're pleased with the green roof just because it looks cool, not because of all its economic, environmental, and social benefits. I smile back at them and give a friendly wave of the rake. They're right. It does look cool.

Anyone interested in more information or a roof greening internship at Bienger GmbH should contact Christian Lang at christian.lang@bienger.de.

Erica Oberndorfer is a graduate of McMaster University interested in urban greening, sustainable transportation, and education. Her greatest accomplishment to date is growing a vegetable garden. Erica will be backpacking in Southeast Asia for most of 2002, seeking out inspiring stories of community-building and positive social and environmental action.

An Interview with Connie Russell

by Jillian Herfurth

Author's Note: *This time around I decided to write about the other chairperson of the Pathways editorial board. As you may know, I profiled our Co-Chair Bob Henderson in the last issue of Pathways, and this time it is Connie Russell's turn. She is a little reticent about being the centre of attention, but, hey, Connie, you deserve to get some recognition for all the work you do.*

Connie recently moved from Toronto to Thunder Bay, but remains a loyal Pathways Co-Chair.

JH: When did you become involved with COEO?

CR: I'm a relative newcomer to COEO compared to many folks. I joined in 1994 when I was a graduate student at OISE.

JH: What prompted you to join?

CR: I joined primarily for the subscription to *Pathways*. I was regularly seeing references to *Pathways* articles in other articles and books I was reading and decided it was time to check the journal out.

JH: What roles have you played in COEO?

CR: My involvement has been mostly with *Pathways*. It's all Bob Henderson's fault! He asked me to write the Explorations column, which I did for a few years, and then Jennie Barron and I guest edited a special issue devoted to voices from York University (where I was teaching at the time). Then I somehow got sucked onto the Editorial Board, and now I'm Co-Chair. It certainly wasn't something I planned, but it is something I am enjoying very much, especially since we have such a solid team on the Board and now have a wonderful Managing Editor in Rande Holmes.

JH: How has your involvement in COEO added to your life?

CR: Well, I'm certainly a better editor than I used to be, and I hope I'm a clearer writer. I've also gained knowledge of things like design, which I knew nothing about previously. I get a thrill from the delight expressed by authors published for the first time. Most of all, however, I enjoy the opportunity to collaborate with others to produce a journal that, I hope, is both practically useful and provides food for thought.

JH: What is the best part of COEO?

CR: The members, of course. It is an honour to be working with such a dedicated group of professionals who are deeply committed to outdoor education.

JH: How does COEO need to improve?

CR: I think we need to collaborate more with other organizations that share our goals and visions. We need to work together to improve the state of outdoor education in this province.

JH: What's your favourite COEO memory?

CR: Oh gosh, that is difficult. I'd have to say working with Jennie Barron on that special York issue. We were both neophytes to editing and took on the task with gusto! We had a lot of fun and were both very proud of that issue.

JH: What developments in COEO do you see coming up?

CR: I am seeing an increasing interest in the secondary school integrated programs operating here in Ontario, and I think that COEO can play a leading role in providing resources to teachers who wish to initiate such a program or enhance an existing one. I'm hoping that we can make these resources available on our Web site, as well as produce another inventory of programs. M.J. Barrett, in particular, is working hard to help make this happen.

JH: What do you do in outdoor education outside of COEO?

CR: I'm a professor in the Faculty of Education at Lakehead University. I teach courses in outdoor education for B.Ed. students (Primary-Junior, Junior-Intermediate and Intermediate-Senior) and a course in critical pedagogy for graduate students. I'm currently doing research on the integrated programs in Ontario. I've also written about the educational potential and pitfalls of ecotourism.

JH: Thank you, Connie, for providing a candid and thoughtful interview. Best of luck in Thunder Bay.

Jillian Herfurth sits on the editorial board of Pathways. She is also the guest editor of this issue.

Where Is the *Magic* Out There?

by Judy Halpern

This article first appeared in Interactions, the journal of the Ontario Society of Environmental Education in 1999. It is reprinted here with the author's permission.

I have been teaching for over fifteen years and still have little difficulty finding *magic* in everyday experiences. Of course, as I get older, more experienced, and I dare say more cynical, I may have to look a little harder, but spending time outdoors with young children makes it an everyday possibility!

After eleven exciting years in the classroom and four wonderful years at an outdoor centre, I finally left the comforts of my life in Canada to spend a year travelling abroad. It has taken me a long time to realize this, but the world really is much bigger than our immediate schools, boards and issues!

When I returned, I faced another year in the classroom getting reacquainted with the new curriculum (it seems to be new every year). I found that my experiences in the "real world" gave me fresh insight on matters and helped me keep my everyday problems in perspective. I was lucky enough to enjoy a class of students who were my best audience and were genuinely interested in my experiences. I became a storyteller.

As the year progressed, I yearned for ways to incorporate both my experiences in the world and my love of nature into my teaching. Neither proved to be very difficult, and I quickly learned that my students, who had a genuine curiosity about the world around them, would *really* learn through experiences that I could provide.

The story is the key. This I learned from Bob Henderson in his storyteller's workshop at the Council of Outdoor Educators of Ontario's (COEO) annual conference in September 1998. I could use the medium of storytelling to relate concepts, recall events, remember information, and recreate the "magic" of the moment. I could use picture books to teach an appreciation for quality writing and the diversity of art in children's literature.

There is no better time to acquire scientific habits of mind and no better instigator than quality children's books. Children's books that instill the habits of mind sustain science.

*(Literature and science breakthroughs,
Joanne Lake, 2000)*

I spent all my spare time (between planning, preparing, portfolios, and personal profiles) putting together what came to be *The Magic Suitcase*! I applied for another year's leave and put my plan into action. Here are the results:

The Magic Suitcase is a literature-based program that uses Language Arts in the natural world to bring quality picture books to life. The program is dedicated to providing opportunities for young children to discover the wonders of literature and the outdoors. In turn, it will build an appreciative attitude in our children towards our fragile environment.

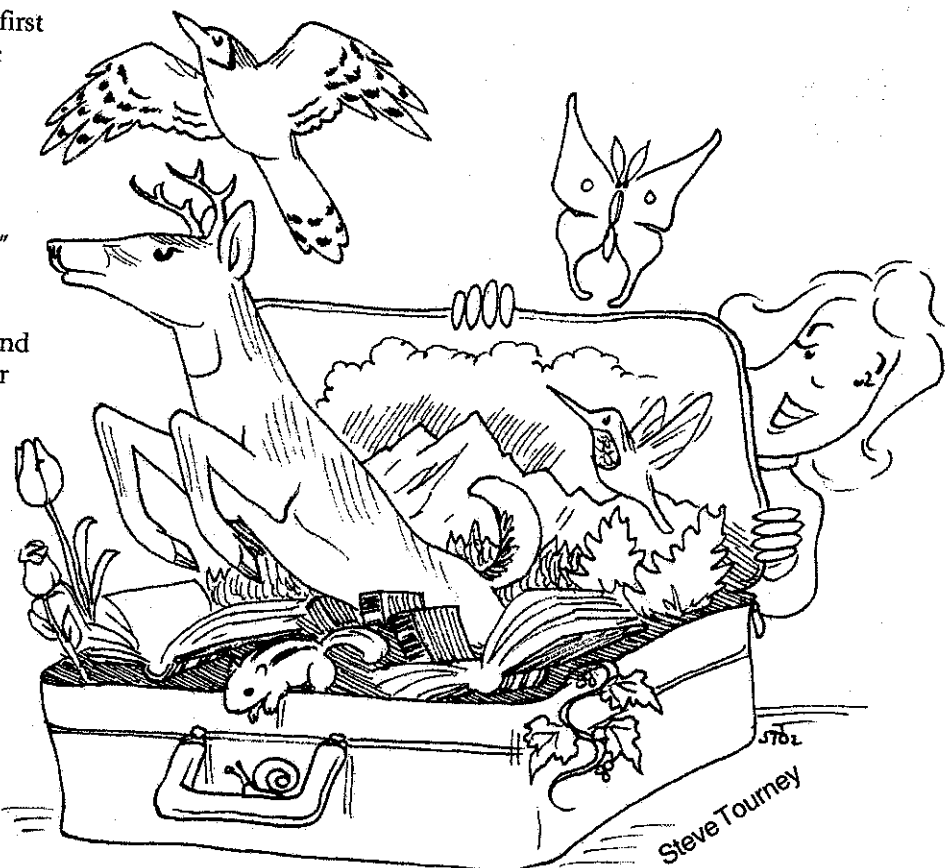
That's the mission!

It has been six years since my decision to leave the traditional classroom and teach in a way that I know children will learn. The program has been designed to allow students to experience the natural world through their eyes, head, and heart. By creating a personal connection to the world around us, we can instill a desire to want to be a positive contributor to our society. It sounds very wholesome and "apple pie-ish," but it works!

[Children] find infinite appeal in soil and mud, in sand and water, in making colourful marks on paper; later they enjoy the discipline of wood, of stone and rock, of sound and light. It is the crust of the earth, in all its variations, which most attracts the child. In handling these things, the child's powers of concentration are exercised to the full.

Alice Yardley

The Magic Suitcase first grew out of a desire to provide learning experiences to young children who may not have access to an "outdoor education" centre. Then it evolved to provide ways for children (and teachers) to use their immediate surroundings to discover that nature exists right outside our door. Nature is not exclusive to the "forest" or the field centres that you need to travel to by bus; it exists right in our own schoolyards — we just have to open the door and get outside!



Our schoolyards are really the perfect place to begin teaching about our environment. Just think: they are easy to get to, they can be observed over time with repeated trips, they reflect our neighbourhood, and they are touched by the elements such as wind, sun, rain, and pollution. Focusing on the schoolyard will hopefully inspire future environmental improvement projects. Now add to this a picture book depicting a similar place brimming with life, and you have the perfect recipe for meaningful environmental education!

Patterns in nature resonate with mathematical precision. Shells, leaves, and animal evidence symmetries that can be expressed in complex formulations. In the last twenty years a whole branch of mathematics called chaos theory has arisen to account for the variations and seeming unpredictability of the natural world.

Literature is filled with stories of people at odds with the natural world,

surviving the forces of nature, or studying its beauty and power.

(Tales of thinking: Multiple intelligences in the classroom Paul Carreiro, 1997)

The Magic Suitcase now travels right across Ontario, providing workshops for children and teachers, and using their own schoolyards to explore the wonders of nature. Literature is used as a springboard to explain concepts, and with a touch of "magic" we make the experience a memorable one. Workshops are also provided for teachers who are looking for ways to integrate the outdoors into their regular program.

Why a literature-based approach to teaching science? According to Joanne Lake, author of *Literature & Science Breakthroughs, Connecting Language and Science Skills in the Elementary Classroom* (Pembroke Publishers, 2002), there are a number of advantages for using science-focused literature rather than a textbook for teaching elementary science.

Scientific-focused literature

- introduces science concepts through language and illustrations
- develops imagination through exploring and investigating
- encourages integration with other subject areas
- provides up-to-date scientific information
- provides opportunities to build knowledge quickly
- helps children make connections and see relationships
- encourages activity-based science experiments
- provides a multi-sensory approach
- provides motivation to learn
- conveys meanings through illustrations
- introduces hands-on instruments through text and illustrations
- serves as a catalyst to link skills

(Lake, 2002)

Aside from the workshops, *The Magic Suitcase* also provides teaching materials for the primary grades. These materials consist of published storybooks, props (necessary to teach the activities), and a teacher's guide integrating language arts, science, math, social studies, and the arts. Each activity is coded to identify expectations of the new Ontario Curriculum it meets. With the use of these kits, teachers can use their own backyards to teach environmental issues through literature-based activities.

Need some *magic* in your life? Curl up on the couch with a mug of hot chocolate and a great book and let it transport you to the world of imagination. Then, bring that fantasy into a child's life by sharing picture books with your students. New at this? Try any of the recommended books below as a springboard, and then go wild!

Mother Earth by Nancy Luenn

Simon & Schuster

ISBN: 0-689-80164-5

Price: \$8.95

This book is a joyful celebration of our Mother Earth. It reminds us that we have a job to do to help keep her healthy — be it covering the ground, her skin, with grass; sheltering her animals; or learning to sit and listen as the stones do. With its use of soft watercolours, it is a gentle reminder to use her gifts well, and return them with respect.

If You Find a Rock by Peggy Christian

Harcourt

ISBN: 0-15-239339-0

Price: \$24.50

"When you find a rock, you don't always know what kind of a rock it is. Have you found a hiding rock? Or a rock to skip in the water? It might be a wishing rock, or a climbing rock, or a rock to kick in front of you all the way home. Or you might have found a rock that doesn't have a name yet. And that might be the best rock of all..." Simple text and beautiful hand-tinted black and white photographs bring to life the simple pleasures of finding that perfect rock!

Grandad's Prayers of the Earth by Douglas Wood

Candlewick Press

ISBN: 0-7636-0660-X

Price: \$22.99

"Trees pray. They reach for the clouds and sun and sky and stars. What else is reaching for heaven but a prayer? Rocks, streams, birds, and yes, people pray. All in their own ways, all for their own reasons."

Douglas Wood and P. J. Lynch have written and illustrated a joy to read and to share with anyone you love.

Wild Child by Lynn Plourde, illustrated by Greg Couch

Simon & Schuster

ISBN 0-689-81552-2

Price: \$23.50

If the seasons of the year were children of Mother Earth, autumn is her "Wild Child." The final delights of this lively season are revealed in this story through the demands of a reluctant young daughter at bedtime. Mother Earth lovingly tries to put her 'wild child' to bed through the changes of fall as it leads to winter's awakening. Vibrant and imaginative illustrations show a mother and child at play in the landscape of changing seasons. Unique, rich text creates a magical, flowing experience from the first page to the last.

Winter Waits by Lynn Plourde, illustrated by

Greg Couch

Simon & Schuster

ISBN 0-689-83268-0

Price: \$23.50

Written as a sequel to *Wild Child*, Winter wakes up and wants to play. Father Time is too busy, however, and this creative child tries to please his father with icy works of art covering the land. At last, Winter must wait no longer when Father

Time is persuaded to abandon his work to tumble and frolic with his playful child. No wonder this chilly season's end is so late! Father and son make blustery storms and showers of snowflakes, before the energy spent in play puts them both to sleep. Imaginative illustrations and vibrant vocabulary make this story of winter waiting for Father Time a joyful experience.

Waterdance by Thomas Locker

Harcourt

ISBN 0-15-201284-2

Price: \$24.00

What moves between land and sky, forming paths along terrain and climate? This is the story of water. Its dance reaches all life, stretching through the air, forests, rock, and soil. Each page of the story brings the reader to a new place in the dance, as water speaks in riddle to describe its journey through the land and sky. Each place gives water a new name. A waterfall becomes a mountain stream. A river flows to a lake, and the sea, then rises to mist. It continues to rise as clouds, then storm fronts and thunderheads, falls in rainstorms, and then glistens silently as a rainbow. The beautiful and powerful dance of water across the world celebrates its variety and continues its change. Thomas Locker describes through words and vistas, a dance essential to all life.

Stranger in the Woods by Carl R. Sams II & Jean Stoick

Scholastic Canada

ISBN 0-9671748-0-5

Price: \$19.95

"A heart-warming winter wonderland adventure with enchanting images and endearing text." Who's the stranger in the woods? The animals soon discover that the stranger is friendly but its secret identity stays with the young children who make the magic happen.

Sky Sisters by Jan Bourdeau Waboose, Illustrated by Brian Deines

Kids Can Press

ISBN 1-55074-697-9

Price: \$15.95

"Grandmother Moon lights the way as two young Ojibway sisters set off across the frozen north country to Coyote Hill, where the Sky Spirits dance." Magnificent illustrations depict the chill and silence of the north through vibrant colours

that spark the dark night sky. The text is rich in knowledge of the north and the warmth of the relationship shared between sisters.

The Night Rainbow by Barbara Juster Esbensen

Illustrated by Helen Davie

Orchard Books

ISBN 0-531-30244-X

Price: \$25.95

"Since ancient times the northern lights — the celestial display also known as the aurora borealis — have astounded all who witness their dazzling formations." Beautifully written poetry takes us on a journey around the world through the magic of the northern lights. We learn of the legends that surround the aurora borealis as well as the science behind the beauty in the factual information provided at the end of the story. The magnificent, vivid illustrations seem to dance on the page, just as the northern lights themselves.

Literature and Science Breakthroughs by Joanne Lake

Pembroke Publishers

ISBN: 1-55138-126-5

Price: \$18.95

This comprehensive resource features a variety of hands-on activities to help students gain first hand experience with scientific principles. Organized around the major science strands, the book looks at using the best children's literature to achieve scientific outcomes for the Ontario Curriculum.

For more information about *The Magic Suitcase* programs, workshops or books or teaching materials please feel free to visit our website at www.magicsuitcase.on.ca.

References

Carreiro, P. (1997). *Tales of thinking: Multiple intelligences in the classroom*. Pembroke Publishers. Markham, Ontario, Canada.

Lake, J. (2000). *Literature and science breakthroughs: Connecting language and science skills in the elementary classroom*. Pembroke Publishers. Markham, Ontario, Canada.

Judy Halpern is a long-time COEO member, teacher and founder of her own literature-based educational program exploring the natural world. It is called *The Magic Suitcase*.

Go . . . Get Outdoors!

by Robert Pye

In an age of video game systems, super channel cable packages, and the Internet, there comes a time to *Get Outdoors*.

This year, the *Get Outdoors* program was launched to help community groups, service organizations, and schools establish youth conservation clubs.

Get Outdoors is "hot off the shelf," and already the success of this one-of-a-kind program has been nothing short of phenomenal.

In less than nine months, about twenty-five *Get Outdoors* clubs are in the works throughout the province and being hosted by various groups, including three high schools from three different school boards.

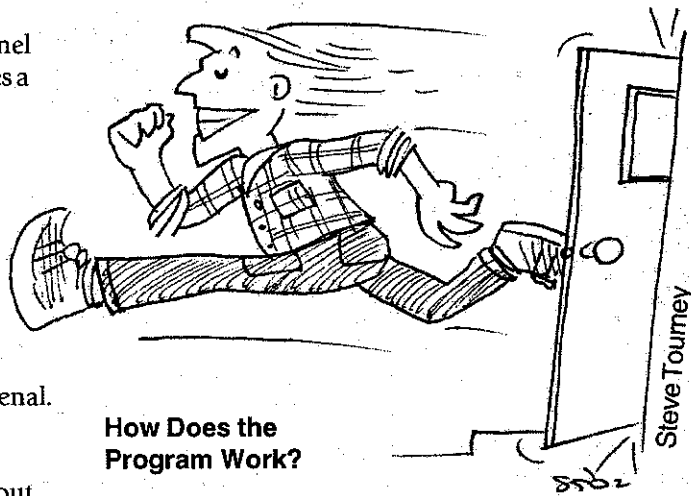
Developed to inspire youth participation in local conservation projects and outdoor recreation, it is not surprising that *Get Outdoors* is a program of the Ontario Federation of Anglers and Hunters (OFAH).

The theme of the *Get Outdoors* program is "Discovering Your Place in the Outdoors." It is a simple theme that reminds us that while we may all have different interests in the outdoors, we can all work together on conservation projects. And, in doing so, everyone must respect one another's outdoor interests.

What is an OFAH *Get Outdoors* Club?

As its name suggests, *Get Outdoors* is all about activity-based involvement in the great outdoors. Through the *Get Outdoors* program, youth members will have the empowerment and self-satisfaction of planning their own outdoor adventures. *Get Outdoors* clubs are "clubs for youth, run by youth."

Anyone under the age of 18 may be a member of a *Get Outdoors* club. Through this program, youth members may earn a series of performance awards for participation in a wide variety of conservation, outdoor exploration, and community service activities.



How Does the Program Work?

Young people will get as much out of an OFAH *Get Outdoors* club as they choose to put in — there is no set curriculum or required program of work.

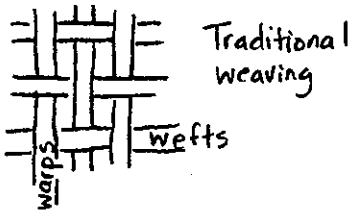
Young people are encouraged to work toward the distinctive *Get Outdoors* Conservation Leadership Award while earning a series of *Get Outdoors* Performance Crests and Outdoor Heritage Pins. Performance crests signify participation in each of the following *Get Outdoors* club program elements: Conservation, Outdoor Exploration, Education, Public Relations, and Fund Raising.

How Do I Start a *Get Outdoors* Club?

If you'd like to add *Get Outdoors* to your school's extracurricular program, the OFAH will provide a free start-up kit, which includes over \$250 in resource materials such as a compass, a first-aid kit, a planning calendar, wildlife calls, videos, posters, a leadership gavel, and more.

The kit also includes a step-by-step OFAH *Get Outdoors* workbook, with important suggestions for club development, outdoor-activities planning, leadership training, youth-club mentoring, and more.

To learn how to bring a *Get Outdoors* club to your school, please contact Robert J. Pye, *Get Outdoors* Coordinator, at (705) 748-6324, fax (705) 748-9577 or e-mail robert_pye@ofah.org.



Weaving

Finger



Finger weaving also known as Indian weaving or flat braiding is an old method of interlacing yarn, fine threads or strips of leather. This technique bears little resemblance to braiding and predates loom weaving in most parts of the world. The term finger weaving is appropriate because it refers to the manner that the fingers are used to pick up vertical warp threads through which you pass the horizontal weft. Your fingers are used instead of a heddle to separate the threads and like a shuttle to draw the weft through the shed. This craft can be done in a very simple manner yet also allows for great skill and aesthetic judgement.

This activity is a wonderful way to teach many math concepts such as patterning, and measuring. It also can be done outside under a tree like in Mexico where many weavers will all use one tree, sitting in a circle with their weaving attached to the tree like spokes on a wheel. This manner of weaving also fits in well with any unit on the fur trade as the centure fleches of the voyageurs were all finger woven while special colours and patterns of the sash denoted the region that the voyageurs came from. The "Assumption" or Seneca Indian sash is actually a double lightning design woven with a red center piece. It typically took approximately one hour to weave one inch. This pattern was so complex that frequently a young child would sit at the feet of the weaver doing all the twisted and crossed yarns the weaver's work created. Narrow finger weaving using just a few coloured yarns to keep things simple and makes good hatbands, guitar straps, head bands, belts or legging ties.

What makes finger weaving interesting is that the weft and warp strands are not separate as they are in loom weaving. The strands constantly switch back and forth from weft to warp as if blending and avoiding any label or sense of duality with the threads. This style of weaving can be done with embroidery thread to make the popular friendship bracelets while embracing a authentic North American weaving technique instead of the as "knotting" techniques of the Peruvian weavers that created designs by covering or leaving uncovered the different strands of coloured yarn. Finger weaving designs can also vary dramatically by changing the colours of yarn even though the weaving pattern remains the same. For more information on different design directions refer to the formative and simple to follow book Finger Weaving by Alta Turner (Cherokee Publications, P.O. box 430, Cherokee, NC 28719 USA) www.Cherokee.Pub.com

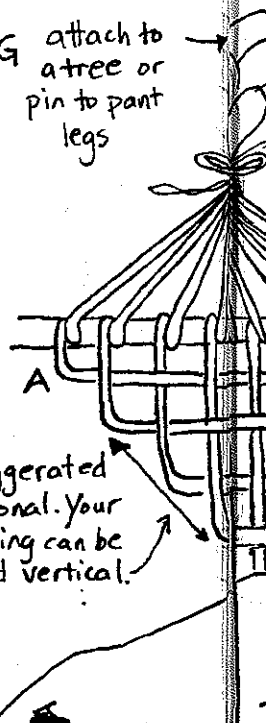
Materials Required

- Three colours of yarn (~4-ply in weight) Cut 10 2.5 meters lengths of each colour (ABC)
- Dowel or stick (~.5-1 thick and 8 long)
- Large safety pin / diaper pin or tree

Set Up

Divide the length of yarn in half and loop (with a simple half hitch knot) the middle of each yarn to the stick. In the order of 10 strands colour A, 10 colour B, 10 colour C. Braid or loop together one half of the yarns. This braided half will be woven later and can be either secured with a safety-pin to your pants around the knee area or attached to a tree. Either way you will want to be able to provide a secure point that allows some tension to be achieved when holding the weaving.

G attach to a tree or pin to pant legs

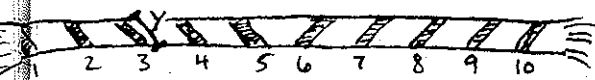
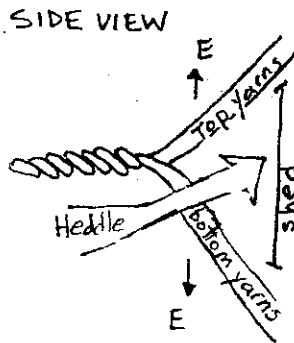


Exaggerated diagonal. Your weaving can be pulled vertical.



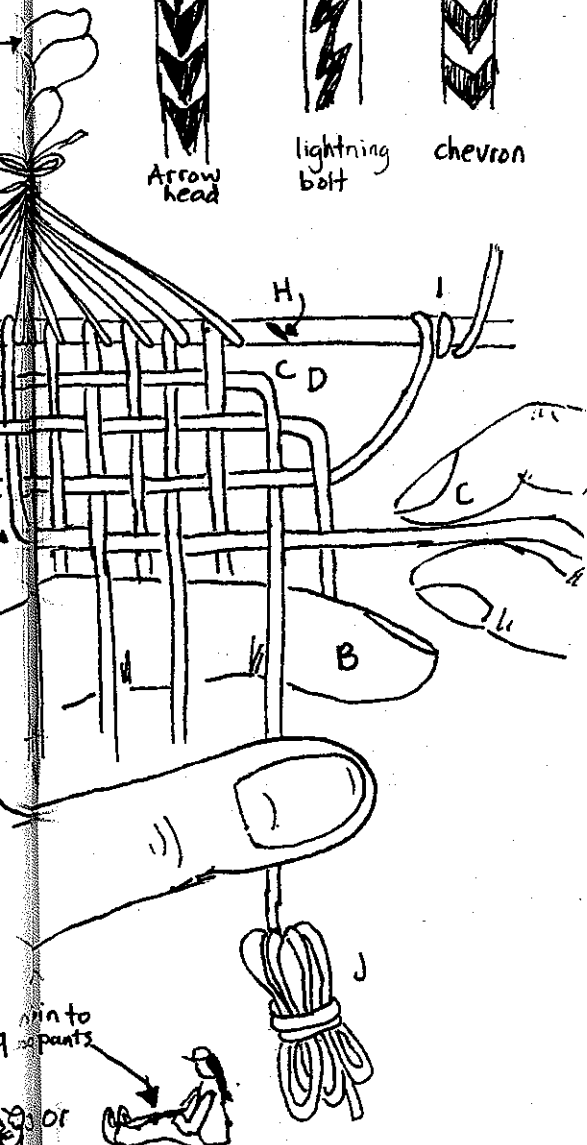
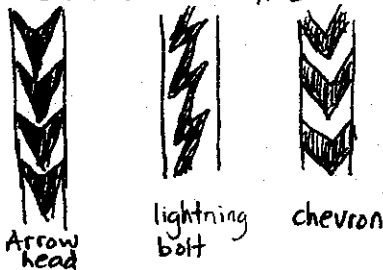


Wide sashes helped the voyageurs hold in their hernias.



length of root — $10 \times y = \text{length of completed sash}$
true or false, explain

OTHER DESIGNS



Weaving (Letters match diagram description)

Start in front of the dowel with the yarn farthest on the left; place this first yarn under the finger and the second yarn inward on the left above your finger (A). It is important to keep the order of the yarns in parallel lines and not to cross them out of position. Use your pointer finger as a heddle (B) on one hand to pick up or lower the yarns while the other pointer finger acts as a holder until you later shuttle (C) the first yarn on the left through the shed you have created. Alternate strands as you go picking up one and dropping down the next (odd numbered yarns down and even yarns up) Draw the first yarn on the left through the shed you have just created to the right (D)

Repeat the above step again by placing the yarn furthest left under and the next yarn above your finger until you have proceeded all the way across to the right. Always weave from left to right with each succeeding outside left yarn going under the adjacent yarn to the right. To "pack" (tighten) the yarns and make them an even tension as you proceed at the end of each row separate the yarns in opposite directions by lifting up on all the top yarns at the same time you pull all the bottom yarns down (E). Also gently pull the previous yarn that you wove through before you place it over the last yarn dangling down on the right side (F). Adjustment can be made on the belt by re-pining or tying the belt to adjust the distance of the weaving from your body or just move back if you are attached to a tree (G). Make sure when placing your work aside that you return to it with the same side up so that you can maintain working on it in the same left to right fashion (perhaps carve a nick in your stick to mark the top side (H).) The previously woven weft strand can also be gently looped around the stick on the left side to keep it out of your way until it becomes the last warp strand (I). To keep strands of yarns from knotting they can also be tied up into coiled loops (J).

The ends of the weaving can then be secured by twisting or braiding the last few centimeters of yarn into fringes with knots on the end (K). Once one half of the weaving is complete simply undo the braiding on the first incomplete half and begin again to work from the middle outward. Don't forget to remove the stick (L).

Like many crafts the most challenging part can be getting started when all the strands seem confusing and difficult to keep in order. As you begin to see and recognize the pattern it will become much easier. Persevere though for after weaving an inch it will be much easier to see the pattern and after a few inches bystanders will not be able to determine what you are doing as your fingers will be moving so quickly. Persevere though for after weaving an inch it will be much easier to see the pattern and after a few inches bystanders will not be able to determine what you are doing as your fingers will be moving so quickly. Sometimes I have a few spare weavings for students to practice on to learn the pattern before beginning their own. Finger weaving is one of those patterns that will become embodied knowledge that your fingers will understand but your mind will find challenging to explain.

Math extensions for this activity could be to compare the lengths of the yarn from their starting lengths to the completed woven belt length. Is the completed length shorter by the length of the diagonals times the number of diagonals you made? If not by how much were you off and why do you think this is so?

Teaching About Climate Change: Cool Schools Tackle Global Warming

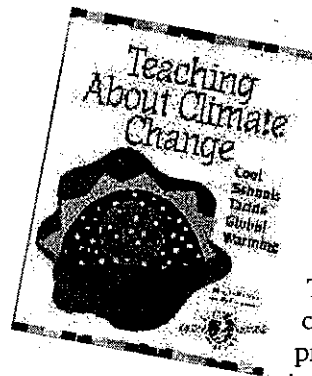
Review by Connie Russell

Tim Grant and Gail Littlejohn (Editors), *Teaching About Climate Change: Cool Schools Tackle Global Warming*, 2001, New Society Publishers and Green Teacher. ISBN: 0-86571-437-1, paperback, \$15.95.

The Kyoto Protocol has been making news the past few months. When U.S. President George W. Bush withdrew from the deal that would require a reduction in greenhouse gas emissions, a number of Canadian premiers led by Alberta's Ralph Klein quickly followed suit demanding that our federal government also withdraw. Many of the opponents are from regions heavily dependant upon petroleum and coal production and thus worry about the economic impacts of the Protocol. Environmental advocates, however, note that in Canada alone 1998 greenhouse gas emissions were 13 percent higher than in 1990 and thus worry about the effects of global warming.

There is much public confusion around climate change, global warming, extreme weather and ozone depletion. Both opponents and advocates of the Kyoto Protocol marshal science to their cause and the media is rife with conflicting reports. While such current events are always full of pedagogical potential, even those of us keen to include climate change in our teaching may be a bit nervous in the face of all this confusion. Luckily, Tim Grant and Gail Littlejohn of *Green Teacher* fame have released a timely and helpful resource, *Teaching About Climate Change*.

In their introduction, Grant and Littlejohn write of the many challenges our society faces in dealing with climate change. For instance, the current population has no previous experience with climate change, the issues are highly complex and scientists are uncertain about the ramifications. Further, climate change is mostly intangible, which poses particular problems for educators. It is not easily demonstrated either in or out of the classroom in the way that a visit to a landfill can bring home the issue of waste production. Finally, solutions will require changing deeply ingrained habits that presently



contribute to our over-consumption of fossil fuels.

This book rises to the challenge in that it provides both background information and practical

activities and action-projects for all grades across a variety of subjects. To begin, Louise Comeau and Dave Mussell provide an accessible overview of the current state of knowledge regarding climate change as well as various political responses (e.g., Rio, Kyoto). Other chapters explain related concepts such as the greenhouse effect and climate variability.

As one would expect from a publication associated with *Green Teacher*, the bulk of the book is devoted to practical tips for teaching. Milton McLaren and William Hammond provide a general conceptual framework for teaching about climate change, pointing to five ideas they consider essential for inclusion in any educational endeavour on the topic. Jackie Oblak, recognizing that in the dead of winter many of us in Canada would welcome a rise of 2-3°C, offers an excellent activity — "Is Climate Change Good For Us" — that assists students of various ages in exploring potential impacts ranging from the personal (e.g., more rain may mean cancellations of baseball games) to the regional (e.g., more rain may cause local tomato crops to rot in the fields). Numerous other activities in the book focus on teaching about key concepts (e.g., scientific experiments to demonstrate properties of gases), energy alternatives (e.g., "cool schools," energy audits, solar cookers) and transportation issues (e.g., walking school bus, public transit, cycling). The book concludes with a list of North American organizations and recommended resources where teachers can find further information.

Connie Russell teaches Outdoor Education and Critical Pedagogy in the Faculty of Education at Lakehead University.

Jargon Deconstructed

by Simon Beames

...to flash this route you'll need some beta: first, layback up the flake, then dyno to this way mongo jug, place some pro, mantle on to the ledge...

Jargon is everywhere. I had forgotten this until I recently arrived in a new place, doing new things, with new people. Although English is the principal language in my new community, many of the words are foreign to my ear. During my first week of graduate school, I read an essay that contrasted the merits of structural functionalism, symbolic interactionism, and neo-Marxist ethnography, which prompted an immediate re-evaluation of my desire to pursue another degree.

As we know, jargon is present in all professions, pastimes, and peer groups. On one level, specialized terms facilitate debate and, it is hoped, progress. Imagine how cumbersome conversations among aviation mechanics would be without specific words: "We must remember to check those tilting horizontal flat things sticking out of the backs of the wings that help the plane climb and descend..."

At the other end of the spectrum, jargon can exclude people. It reminds newcomers that they are not bonafide members of the club until they can liberally sprinkle these words about. I wonder if the guys at the kayak store used the



words *stopper*, *hole*, and *keeper* interchangeably just to mess me up?

Like it or not, new kids on the block need to learn minimal amounts of jargon to enable basic interaction with their peers. This fact alone has

obliged me to read voraciously, so I might learn enough terminology to become accepted as a genuine "player."

During my quest to learn the lingo in new places, I have made two discoveries. First, some veterans of the game do not have a clear understanding of the jargon themselves, or worse, they make up completely nonsensical terms that give jargon a bad name. Last year, a certified mountain guide told me in no uncertain terms that "ephemeralization" was the key to climbing safely and quickly.

My second discovery was that half of the terms have the same meaning! Imagine a participant on a challenge course wondering how his or her instructor decides between doing a debrief, a review, or processing.

As much as I dislike jargon and avoid it wherever possible, my professional insecurities have always left me feeling the need to arm myself with a few choice phrases before going into a meeting, all with the pretense of appearing like a sharp, informed professional. "Yes, this is a student-centred program where the adventure activities are merely vehicles for learning intrapersonal and interpersonal skills..."

Jargon is everywhere (it is omnipresent, and even ubiquitous). It has the power to exclude people. It has the capacity to aid debate. As a newcomer to the world of educational research, I have made a New Year's resolution to limit all talk of relativist ontologies, subjectivist epistemologies, and hermeneutic methodologies to those few who care.

Hailing from Montreal, but with exceptionally strong ties to Ontario, Simon has just begun a PhD in adventure education at University College Chichester in England. He can be reached at simon@raleigh.org.uk.

Making a Tabletop Waterfall

A Hands-On Project for Students of Environmental Science, Art, or Decorating

by Jillian Herfurth

In early summer, I received a unique gift — a tabletop waterfall. It required a bit of assembly, but the effort was well worth it. For the uninitiated, I will explain. I had no idea what this item was until I started to read the instructions provided with it. After all, not all of us have the *savoir-faire* of Martha Stewart.

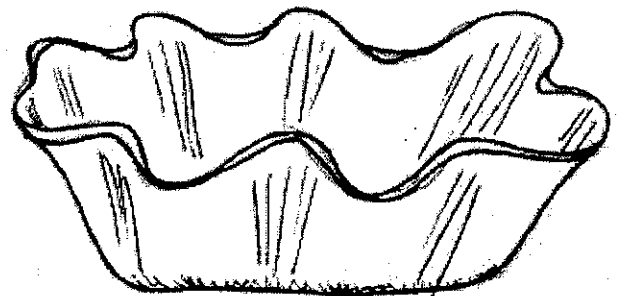
The tabletop waterfall is similar to the models available in department stores and gift shops. This one was special, though, because its parts were conceived and gathered by the person providing the gift, and so carry personal significance. That is what is great about this waterfall, and that is why I write about it here. This is an item you can create yourself and perhaps give to someone special.

For those of you working with children and teens every day, this project could fit in well for enrichment in art class, environmental science, or even home-decorating courses in high school. For science classes, this project could tie into a unit on botany, as students follow the growth of the plants under varying conditions. Teachers looking for activities related to home decorating can challenge the students to come up with creative variations to this tabletop waterfall theme.

The parts needed are as follows:

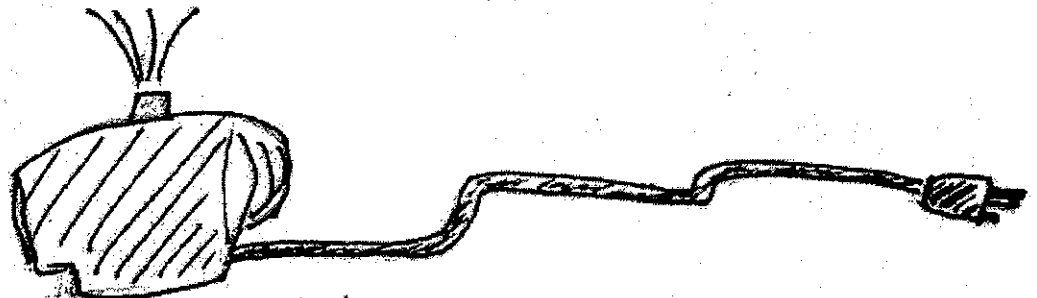
- A container, which can range in volume from a kitchen mixing bowl to a pail used for washing the car. For the pottery unit in art class, students could create the container from clay. Other suggestions include a clear glass or plastic bowl, or a weathered, galvanized, outdoor pail.

hand-thrown clay pot



Jillian Herfurth

- A submersible pump, about 5 cm x 7 cm x 5 cm (2" x 3" x 2"). This is not the kind used for fish tanks. Two brand names are Little Giant and United Pump (phone: 651-770-7810). They are available at some nurseries and specialty suppliers.



Small electric pump

Smooth stones



- Smooth, rounded, polished stones; rough, flat rocks; and seashells. You may use more or less of each according to your own tastes. You could even use colourful glass "pebbles," which are available at nurseries and stained glass stores.
- A variety of small plants, such as ferns, spider plants and even aloe, if this suits your taste. When you are using plants, it is important not to allow the soil to clog the pump. Roots and soil must be contained within watertight pots or plastic bags.

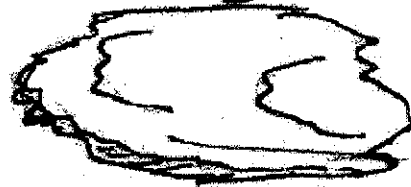
Alternatively, you could plant greenery in a little soil in seashells and water carefully by hand.

seashells



The steps involved begin with the situating the pump.

rough rock



1. Place the pump in the centre at the base of the container. Run the electrical cord along the bottom, up the side and out to the wall outlet. Do not plug it in until after you have completed all other steps.
2. With the plants in their waterproof pots or plastic wrap, nestle them in the container, supported by the smooth stones and rough rocks.
3. Add the seashells on top of the stones for added decorative flair.
4. Fill carefully with water so that it fully submerses the pump, but stays below the level of the plant pots. Plug in the pump.

You now have a peaceful, soothing waterfall, complete with a tiny landscape of flora.

Jillian Herfurth serves on the editorial board of Pathways. She would like to acknowledge and thank her friend Judy Knaack for providing the "tabletop waterfall" concept. If you wish further information on the tabletop waterfall, Jillian welcomes both your queries and your comments.

Reptiles Need Your Help!

by Glenda Clayton

During the warm days of mid-June, a female spotted turtle leaves her pond to seek her nesting spot. She climbs the bank, crosses the road and lays five eggs in the same area she has used for years. The sandy south-facing slope is ideal; the road, unfortunately, is not. Many mature female turtles will not survive this journey. The chances of her five eggs producing an adult turtle are also slim. The eggs and young turtles have many predators, such as raccoons, skunks, and foxes. When the young hatch in early fall, they too may be killed crossing the road. And if someone takes just one spotted turtle from the wild as a pet, then the population is even less likely to be sustainable.

Road mortality, deliberate killing, illegal collecting and the loss of habitat are putting Ontario's reptiles at risk. To help reverse this trend, reptiles need your help!

The greater Georgian Bay Reptile Awareness Program is dedicated to conserving and protecting seven reptiles in the Georgian Bay area. These include the *Eastern Massasauga Rattlesnake*, *Eastern Fox Snake*, and *Eastern Hognose Snake*, which are considered threatened by the Committee on the Status of Endangered Wildlife in Canada (COSEWIC). There are also three species of special concern: the *Five-lined Skink*, *Spotted Turtle*, and *Wood Turtle*. A seventh species, the *Blanding's Turtle*, is under review for designation.

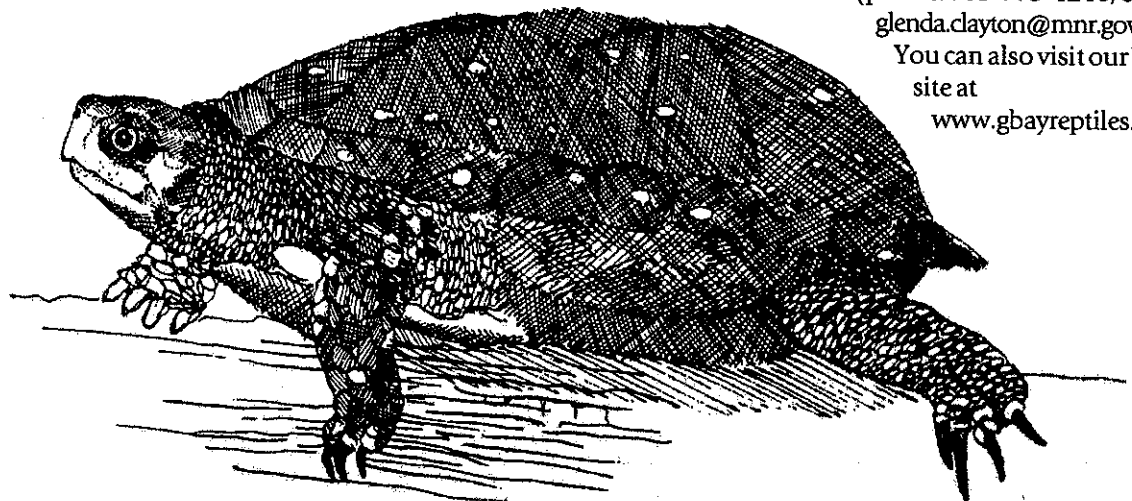
This new program is a joint initiative of the Ministry of Natural Resources Midhurst and Parry Sound districts, and Ontario Parks' Central Zone. It is also supported by Georgian Bay Islands and Bruce Peninsula National Parks, Midland-Penetang Field Naturalists Club, the local Stewardship Councils, Toronto Zoo, and the Friends of Killbear, Wasaga Beach and Awenda Provincial Parks.

Since August 2001, more than 1000 people have attended reptile awareness workshops. The diverse audience ranges from school groups to cottage associations to people who work in the field (e.g., hydro employees and forestry workers). Participants learn about the natural history of these reptiles, how to identify them and why they are at risk.

You are encouraged to take an active role in the conservation of these reptiles. Information is provided on protecting and creating habitat. Monitoring forms are available to report sightings which will help develop a better understanding of the species' distribution and assist with recovery efforts. With your help, we can make a difference for these at risk reptiles.

In you are interested in receiving more information about the program, or in attending or hosting a workshop, contact Glenda Clayton, Program Co-ordinator at MNR's Parry Sound office (phone: 705-773-4246; e-mail: glenda.clayton@mnr.gov.on.ca).

You can also visit our Web site at www.gbayreptiles.com.



Visual Arts: A Vital Environmental Education Program Component

by Stan Kozak and Christine Bretherick

For the last several years we have been designing and implementing environmental education programs and delivering teacher in-service workshops through the lens of a highly integrated approach to learning that we call *Art, Science and the Environment*. In many ways the visual arts component of the program characterizes it and helps to direct the learning in the field and back in the classroom later on. Through the visual art activities, students gain new insights. While on field trips, they incorporate artistic expression in a meaningful way and bring a greater sense of meaning to the overall learning experience.

In crafting learning experiences, we like to think in terms of a learning journey. If students can see that their learning has a beginning, develops a theme, and is going somewhere, they are more likely to stay actively engaged.

Curriculum integration is an important aspect of our work, for both pedagogical and marketing reasons. The science component is often the hook that educators need. In fact, science is often considered the necessary component that validates participation in field experiences. As well, children's literature may be used to set the context of the learning. Writing allows the students to convey what they found to be important on their field trip, and visual arts activities result in a product that can be shared with others. Subject integration is truly attainable in field studies.

In a day-long field trip, it is good to have a mixture of activities. These include low-

and high-energy activities, group work and individual work, an opportunity to listen to others, and time to reflect by oneself. We have had marked success by including thirty to forty-five minutes of sketching in the field during a day-long field trip. Students are provided with a pencil and a supply of small index cards. They are told to work in an area near the field trip leader. The goal here is not to create a work of art, but to observe different aspects of the landscape and to sketch them. This exercise works best if the leader directs the students to simply observe and draw various features around them. The students are directed to notice the horizon line, various shapes in the environment, the light patterns on tree bark, or the texture of rocks — so that they are required to really see what they are asked to sketch.

When students study native species, we provide labelled specimens. They observe these specimens and sketch a number of them.



Favourite Children's Literature to Use in the Field

The Backyard, written and illustrated by John Collier, Viking, 1993. A child imagines what has taken place in the backyard, from the present all the way back to the creation of the world (hardcover out of print, paperback available from some distributors).

I find this book particularly valuable to use on field trips that include ecological restoration activities. Regardless of the kind of field trip you have students on, this book has a place in the day. I usually have a copy in my field trip backpack, along with some props. It shows that every place has its story and it is another way of putting students in the ongoing "big story."

The author takes us from his backyard, where his mother and father are currently doing chores, back into time. Along the way he tells us about the events that took place in his own backyard. How intriguing to think that in one place there were pioneers, native people, extinct animals roaming, ancient seas, and the start of it all, "all in my backyard." The illustrations are large so you can put your "librarian reading the picture book to class" hat on right there in the field.

Put the book away and put your story telling hat on. The clues for the tale of the spot you are on are all around you. Take them back 10, 25, 100, 500 years. Then thousands and millions. If you've planned it, you can pass around little relics from some of the stops along the way — a maple syrup spigot from pioneer times, a pre-contact arrow head, a glacially marked piece of limestone, a fossil from long gone ancient seas.

Everyone wants to paw that stuff over: let them. Then it's "back to the future," because the story goes the other way too! What have we planted here today? What will become of it? What will become of us? We're now part of the story of this very place! We will be here forever!

A slight pause to ponder it all and on your field trip you go. If nothing else, you've planted the seeds of some great daydreams.

Sometimes when the time, place, and people somehow all line up, the results are magical. We can recall instances with particular classes in the field when the sketching has taken on a life of its own. The whole class is engaged, and you don't want it to end.

In the process of field sketching, a student is encouraged to observe details. He or she may take a close look at a plant (for example, break open a milkweed pod, examine the contents, and simply take time to notice fine details). A look at the landscape provides valuable information about line, shape, and form — all fundamental building blocks of the visual arts curriculum. Students may enjoy learning how to sketch quickly, without becoming fixed on the minute details, or they may take a small object and try drawing a detailed picture, complete with labelling. The resulting artwork can be kept as a reference for later discussion, and will have served its purpose as the first step toward carefully observing a natural area. Without such an activity, many students would simply pass through without noticing very much. Field sketching is a very meaningful exercise for many students. At the end of the day, there are always students who recall the sketching experience as the best part of the trip.

Back in the classroom, the visual arts learning is more directed. We have a finished product in mind, and some idea of the environmental concepts and experiences that students can consolidate. If the field trip was important, then students need to convey that message to someone beyond the classroom. For students, that someone should be the people in their local community — people on the go who are usually too busy to notice that which is important in their own environment.

The students then set to work, creating artwork — either individual pieces of art, or collective murals. They may make greeting cards or gather their work to display on a three-panel display board. Corrugated cardboard display boards are inexpensive, readily available, and self-supporting. In the working style of the Group of Seven artists, the students' fieldwork has become the inspiration for their art. The displays are completed with a title and information in the form of writing cards, and sometimes they include a map.

Children's literature can be instructive in visual art techniques. Many authors and illustrators devote their work to environmental themes, and when teachers point out the details in their illustrations, students are able to enhance their own drawing and painting techniques by copying. The text is often very sensitive, and reinforces the learning that the students have experienced out in the field.

When the displays are complete, they are then placed in the community. People have an opportunity to read about the students' work and note that they have something to say. They have written about their experiences and have created art to communicate those experiences. It is their intention that the message gets out — they emphasize that the natural world they have experienced is valuable and that collectively we all need to work together to ensure our future. The story has gone full circle — they have reached the audience beyond the classroom!

Much of the focus of environmental education has been environmental science. This will remain the core; however, it is not enough. Visual arts and language arts are also important components of the environmental learning experience. There is merit in art for art's sake, but by including artistic expression as a means of communicating with others, the learning process reaches a higher standard of instruction — the audience beyond the classroom!¹ With effective teaching, the art is beautiful. It attracts attention, and is a perfect means of self-expression. The message to the community is clear: "Hey! Look here! This is what we have learned and we know that it is important!" It works!

*Stan Kozak is a curriculum specialist involved in environmental education program design, implementation, and evaluation. He can be contacted at Curriculum ADVISORS (519) 826-0408 or by e-mail at skozak@sentex.ca.
Christine Bretherick is an independent visual arts education consultant. Reach her at ArtLINKS at (519) 766-4951 or by e-mail at learn@artlinks.ca.*

¹ Newmann et al. (1995). A Guide to Authentic Instruction and Assessment: Vision, Standards and Scoring. Madison, WI: Wisconsin Center for Education Research.

Golden Rod Structures

Materials

- Last year's golden rod stalks
- Pipe cleaners cut into thirds

Years ago I was introduced to the utility of golden rod stalks at a COEO workshop. Instead of gathering them and bringing them indoors, they make a readily available material for outdoor art and technology activities.

If you are taking students through an old field in late winter or early spring, look for golden rod stalks from last year. At this time they are still quite strong and flexible.

Provide each group of three or four students with a set number of pipe cleaners to use to join the stalks together.

Select criteria for their creations. You might choose height or you might choose the most aesthetically pleasing structure.

Rules

Students must only use golden rod stalks or other herbaceous plant material (no wood), and the structure must be free-standing. It must stand long enough for the viewing at the end of the activity.

Once the time period is over, have each group present their work to the others, explaining what they were striving to achieve, what they learned in the process, and what they learned about working together to get the task done. Use a digital camera to record the groups with their works and send the disk home with them to display.

When you are done, you can have the students gather up the pipe cleaners. However, I like to leave the structures standing for some time. It can be very strange and intriguing to come across an area with ten or so of these sentinels standing in the fog!

The Algonquin Mapping Activity

by Linda Leckie

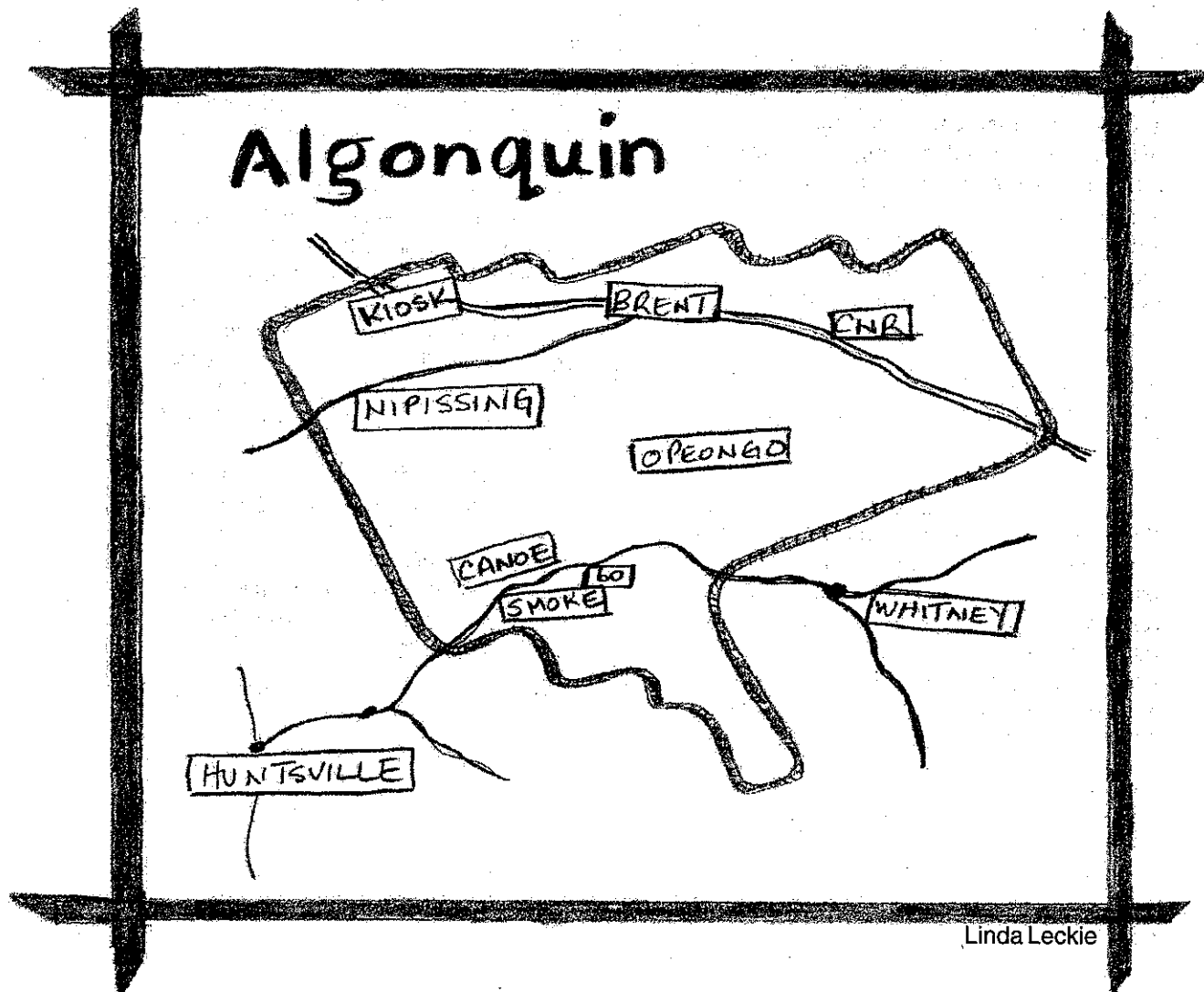
This activity was created thanks to Jake Fallis and his Canadian River Energizer, which was part of the COEO conference in Gananoque several years ago. The concept of using a piece of string or a length of rope to create a map has proven to be a very useful on-the-trail teaching technique. Students can create the big map of Algonquin or any other area in which we travel; their specific canoe, kayak, dogsled, or snowshoe route; or a very special or unique place that they have connected to and explored in detail.

The Maps

This activity can be adapted to any map (or other model), to any subject, and to any grade level.

Here are some of the ways I have used the map-and-string activity.

1. **ORCA Canoe Tripping Instructor Course:** The map activity was used as an introduction to canoe-route planning to see how much the participants already knew about Algonquin Park. While being challenged to create the map outline and then place lakes, towns, abandoned railways, and the seven Algonquin Rivers on the map, the participants learned about the natural and cultural history of Algonquin. We then discussed how the trip experience could be enriched with a guide who shared this knowledge and information with the participants.



2. **Getting to Know Algonquin:** With an Algonquin Canoe Routes map as their guide, students create their own map model. They work together in small groups to place the rivers, railways, towns, lakes, and other landmarks on the map. This is an excellent introduction to the park's unique history, and aids students in developing their awareness of Algonquin.
3. **Canoe Routes:** Students can work in groups to create a string map of the canoe or snowshoe route, a day's travel, or one lake or portage that was challenging or of interest. These smaller maps can then be transposed into their journals to accompany their own thoughts and feelings about the place in which they are travelling. Students can add on to their maps where they saw the moose, where the huge white pine was, where they portaged the canoe for the first time, or where their canoe partner finally got his or her feet wet!
4. **Explorations:** The map and string can also be used to depict an area that the group explores. We stop to explore the Joe Lake portage, finding the remains of the Algonquin Hotel, the Colson's store, the train station, and many other points of interest. Students use the string maps to confirm what group members have found at the site.
5. **Evaluation:** The map-and-string activity can be used as an evaluation or assessment strategy before, during, or at the end of the trip. Leaders of the day can assess their intimate knowledge of the route; the

navigator's skills with map and compass can be evaluated on route; and as a final journal entry, students can create their own trip map that details their experiences on the journey.

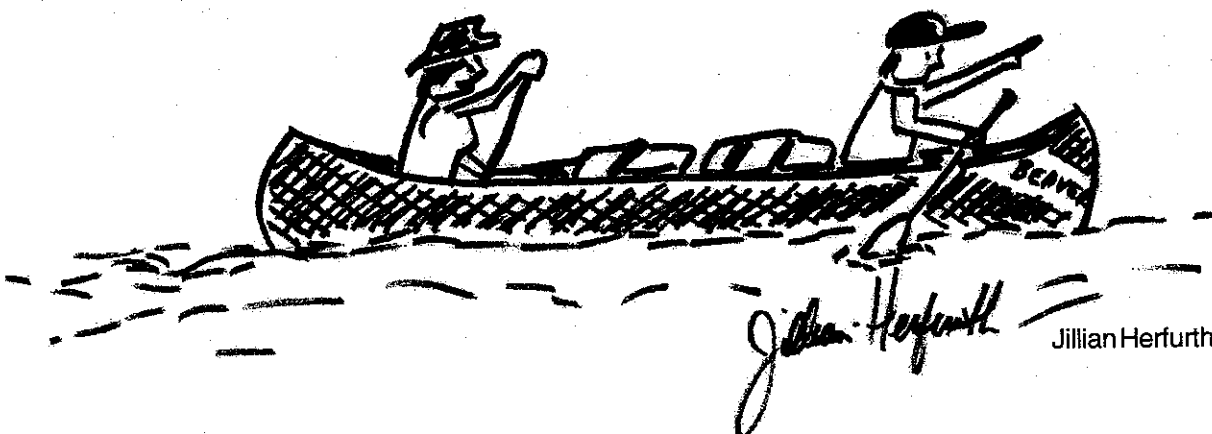
Equipment Required

In a small resealable bag, I take some wool in a variety of colours to differentiate between the map outline, rivers, railways, and highways. I have small cards of the rivers (Nipissing, Oxtongue, Magnetewan, Tim, Petawawa, Madawaska, Bonnechere), towns (Brent, Kiosk, Huntsville, Dwight, Whitney), abandoned railways (Ottawa-Amprior-Parry Sound, CNR), lakes (Opeongo, Big Trout, Canoe, Cache, Souces, Tea, Smoke, Teepee, Tom Thomson, Grand, Cedar), camps (Wapomeo, Ahmek, Tamakwa, Arrowhon, Tanamakoon, Northway, Pathfinder), and other points of interest (Portage Store, Highway 60, ranger cabins, depot farms, old growth pine site, logging relics). Markers and stickers can also be added to help with the map making.

Resources

- The Algonquin Park canoe routes map.* (2001). The Friends of Algonquin.
 Wright, E. (2000). *Joe Lake: Reminiscences of an Algonquin Park ranger's daughter.* Eganville, ON: HEW Enterprises.
 Standfield, L. (1993). *Algonquin: The park and its people.* Toronto, ON: McClelland and Stewart.

Linda Leckie is a teacher of Outdoor and Experiential Education at Bishop Strachan School in Toronto.



Jillian Herfurth

Greening the Toronto District School Board

by Emily Root

When school boards in the Toronto area amalgamated in 1999, many of the environmental programs that existed were lost in the shuffle, mainly because each of the original school boards was using a different system. In terms of recycling, for instance, some boards used blue boxes, while others used the green box system. Some had their recycling picked up by the municipality, while others had theirs picked up by private contractors. To address this and other environmental issues, the new Toronto District School Board (TDSB) created a Department of Environmental Education. In a time when environmental science has been cut from the Ontario curriculum and resources for outdoor and environmental education programs are disappearing, the innovation of the TDSB serves as an excellent example for school boards across the country — it is the only Department of Environmental Education in any school board across Canada!

The goals of the department are to “green” the TDSB (in other words, to lighten the school board’s impact on the environment) and to increase ecological literacy among students. The department has four main areas of focus: Eco-literacy, Energy Conservation, Waste Management, and School Yard Greening. Members of the department write policies and develop programs to address these areas within the entire TDSB, from classrooms to school board offices.

Richard Christie leads the department. He is the District-wide Instruction Co-ordinator for Environmental Education. Marsha Yamamoto and Eleanor Dudar are the only two permanent staff members in the department, and they are involved with policy development, teacher training, resource writing, program management, and implementation.

Recently, the department has added an educational team to create and implement programs in schools. Heidi Campbell works in

partnership with Evergreen, an independent environmental organization, to help work on schoolyard greening. Two project facilitators, Beth Parks and Katie Gad, are developing a number of different school-based programs that are part of a long-term initiative called “EcoSchools.” The department hopes that all TDSB schools will eventually become EcoSchools by adopting programs that address the four main focus areas.

Since September the TDSB Department of Environmental Education has piloted its first three EcoSchools programs. The very first campaign encouraged students, teachers, and other school board employees to decrease their energy consumption. Stickers and posters with reminders to turn off lights, computers, photocopiers, etc., were sent out to schools and offices.

The next program, “Students for Sustainability,” was launched in the fall of 2001. A group of high school students from the TDSB chose to do a work placement with the department to earn a co-operative education credit. For the high school students, this was an experiential leadership program, with opportunities to learn and apply their learning in a meaningful way. First, the students were trained how to assess waste management and energy consumption by elementary schools. Next, they learned how to develop action plans to help elementary schools decrease their impact on the environment.

A typical week for the students included one day with their own high school co-op class, one day in a training program with Beth and Katie from the department of Environmental Education, and three days visiting the same two elementary schools each week for an entire semester. As well, one week out of four was spent in training, learning about one of the four EcoSchools focus areas. Students worked in pairs at each of the elementary schools. They made classroom visits to teach younger students about the three Rs (Reduce, Re-use and Recycle). They acted as

advertising agents, making announcements and bulletin-board displays about environmental concerns. They hosted waste-free lunch celebrations and encouraged parents and school bus drivers to participate in an anti-idling campaign.

“The goals of the department are to lighten the school board’s impact on the environment and to increase ecological literacy among students.”

Feedback from the elementary schools about the Students for Sustainability program was positive. Elementary school students became aware of environmental concerns within their school and learned simple ways to be more environmentally friendly on a daily basis. The high school students were pleased with the results of the program as well. They felt the program was an excellent learning opportunity. They were given lots of responsibility throughout the program and consequently developed time management, planning, and teaching skills.

One of the project facilitators, Beth Parks, points out that while some of the campaigns within the elementary schools may not last once the high school students finish their placements, the lasting impact is the increase in students’ ecological literacy. Beth also explains that while the program’s focus was directed mainly toward increasing eco-literacy among elementary school students, the strongest impact seemed to be among the group of high school co-op students. Through their training and practical experience they learned about many topics, including environmental management systems, media literacy, ad busters, consumption, group building, conflict management, and community. Overall, the project facilitators were pleased with the program.

Initial stages are now well under way for the next EcoSchools program, “Waste Watchers.” In this program, teacher candidates from OISE will visit approximately twenty-one elementary schools to deliver a program about waste management. At each school there will be a general assembly as well as individual classroom visits. Teacher candidates will help each class do a waste audit of the garbage in their class and present students with an “Eco-Challenge” that is applicable to their classroom. An Eco-Challenge could be to set up a paper re-use and paper recycling system, or to aim for less garbage in each student’s lunch. Teacher candidates will return to each class for a follow-up visit to check in with students about the results of the Eco-Challenge.

To prepare for their placements in elementary schools, OISE students will participate in a training program, during which they will learn about the EcoSchools initiative and the past and current state of waste managers that start environmental projects and become EcoSchools. They will continue to develop and implement more programs that promote eco-literacy and address daily behaviours that affect the environment.

COEO members who work for TDSB schools and outdoor centres are fortunate to be able to be part of this exciting environmental initiative. Those of us who are involved with other school boards or independent programs should look to the TDSB Department of Environmental Education as an excellent example of how to begin making real changes in environmental impact on a daily basis. We can only hope that the positive example set by the TDSB will become standard practice among school boards across Ontario and the rest of Canada.

Emily Root is a graduate of McMaster University and also Queen’s University’s Outdoor and Experiential Education program. She currently teaches Kindergarten and Physical Education at Tawingo College near Huntsville. Her favourite outdoor activities include canoeing, camping, and downhill and cross-country skiing.

Ministry Interdisciplinary Studies Curriculum Hot Off the Presses

by Connie Russell

In March, I attended a Ministry of Education session on the just-released Interdisciplinary Studies (IDS) curriculum for grades 11 and 12. Available for implementation in September, the IDS courses will be a boon for integrated programs and for anyone interested in offering a single course with an outdoor/environmental focus. The document describes teaching approaches, curriculum expectations, strands, and sample courses for three IDS courses: Grade 11 Open, Grade 12 Open, and Grade 12 University Preparation. It also provides two models. It is laid out in the same way as any other grade 11 and 12 Ministry of Education curriculum document.

The first model is a single-credit course in which students will be expected to meet all the curriculum expectations of one of the IDS courses. Expectations from two or more existing courses from the same grade or one grade above or below the IDS course will guide the course content, but only the IDS course expectations will be evaluated. For example, I could create a "Nature and Society" course which met IDS expectations while pulling expectations from Grade 12 *Environment and Resource Management*, Grade 11 *Media Studies*, Grade 11 *World Religions* and Grade 12 *Challenge and Change in Society*. There are many possibilities.

The other model supports packages of courses worth from two to five credits. In these packages, students must meet expectations of the IDS course as well as expectations of two or more additional courses from the same grade or the grade above or below the IDS course. For example, the document uses a five-credit Community Environmental Leadership Program (CELP) as an example. Students would get one credit each in Grade 11 *IDS*, Grade 11 *English*, Grade 11 *Healthy Active Living*, Grade 11 *Living and Working with Children*, and half credits each in Grade 10 *Civics* and Grade 10 *Career Studies*. The focus would be on "developing community living skills, relating to the natural world, developing leadership skills, and living responsibly on this earth. Students will learn about ethical decision making and about the political process by conducting interdisciplinary research on different environmental issues. They

will also explore their local bioregion and run an appropriate outdoor environmental education program for elementary students" (p. 17). Sound familiar? It should. Check out descriptions of CELP at Paris District High School or the Bronte Creek Project of Lord Elgin Secondary School. M.J. Barrett and Norm Frost were involved in the early stages of the IDS document's development and ensured inclusion of examples that reflected integrated programs already in existence.

The IDS courses are good news for teachers already running integrated programs worth four credits, as they can now offer their students an additional credit provided they meet IDS curriculum expectations. Such a task should not be difficult; indeed, I would wager most existing integrated programs already achieve many of them. For example, expectations include understanding relationships between various disciplines, gaining the ability to compare and apply a variety of approaches to research/inquiry, and developing skills and knowledge to support collaborative and independent work on real-life problems. Alternatively, integrated programs currently in existence can continue to run without drawing on any IDS courses. The purpose of this document is not to create more paperwork for integrated programs, but to open up new possibilities and give students credit for the deeper understanding that often comes from interdisciplinary learning approaches.

There is more good news! The Grade 11 *Field Ecology Locally Developed* course that Shayne Mann created for his program at Paris District High School is mentioned in the document. I have been told that because this course has already been given Ministry approval, it should be relatively easy to gain permission to include this course either in a package or as a single-credit course.

Check out the new IDS curriculum on the Ministry of Education's Web site at <http://www.edu.gov.on.ca>.

Connie Russell, a professor in the Faculty of Education at Lakehead University, is currently researching Ontario integrated programs.

Emerging From the Bog

by Aynsley Klassen

With only three weeks of classes left, it seems that the formal education system has once again got to the best of students and faculty alike. Sluggish, smelly, and shaky from the common caffeine overdose, many individuals around campus are smirking at the sarcasm of peer well-wishers. As usual, we'll all navigate through this familiar landscape, though some paths will surely be more difficult than others. As of late, I have been pushing to work on my thesis, ensure that I am up to date on a myriad of assignments, and finalize decisions regarding my summer plans. I have been working at a job so that I can buy groceries and pay rent, while still attempting to snatch a few treasured hours of slumber each night. Haven't we all?

Yet in the midst of all this busy-ness, I find myself haunted . . .

This intricate and vast planet Earth, an interconnected web of all creatures and particles, is seemingly shrinking each day we live, paradoxically diminished by development, production and technology. The Western human mind has deemed itself responsible for managing and directing the blockbuster film of life and death, of all creatures and particles, recently merging an incomprehensible diversity of environments, peoples, cultures and spiritualities into one unified fairytale. The Western world shall live happily ever after.

Tonight, finally admitting that fatigue had rendered my vision blurry, I turned on the television to listen to the news. Story after story provided updates on the War on Terrorism. References to fellow humans as 'targets' on which Canadian troops are successfully closing in, scenes of bodies tied in ropes dragged across city squares, and glimpses of future plans of destruction were dismissed with casual hockey jokes between Our Leaders to raise the Spirits of the Nation.

North America heaved a sigh of relief. Now we can sleep peacefully.

I find myself needing to transcend the traditional definitions of outdoor education to acknowledge my hunch that we as outdoor educators are called to work with our students, to work as learners with learners, to make sense of the connections between our local environments and this broader global context. I struggle, however, to comprehend how tonight's news will be incorporated into tomorrow's class. How can we, in light of the current social and political environment, work within outdoor education to facilitate the necessary critical consciousness?

The field of outdoor education, despite financial barriers, limited government support, and pure human exhaustion, has an incredible renewable resource at its very roots: passion. As soil is the nourishment for new growth, so are we, as passionate outdoor educators, nourishment for a healthy world of fresh ideas and possibilities. Creating a fertile educational environment depends upon creating stable support networks and sharing critical ideas and opinions. We must work together to emerge from the bog of our everyday business to celebrate our diversity, our dreams, our hopes, and our visions.

All week I have been pouring over the past 6 years of *Pathways*, updating the index as part of my job as a Research Assistant. My mind has been racing with new knowledge, affirmed hunches, and inspiring dreams of outdoor education. It is you, unique and inspiring outdoor educators working to keep the roots of the field strong, who have reminded me of the incredible potential and possibilities, sending a breath of fresh air through my entire being and re-igniting the passion within.

Aynsley Klassen attends Lakehead University but has resigned from the title of "student" to fulfill the never-ending position of "learner." This summer, she is participating in and researching an integrated program in B.C. and, come September, will be working with the Bronte Creek Project.

The Gathering 2002

by Clive Card

"We must find our touchstones where we can."
John Berryman

For centuries, the philosopher's stone has represented a search for quality. As we left Bark Lake in September of last fall, there was a tangible feeling of expectation and excitement for the conference that would follow in the footsteps of two very successful years at the site.

Inspired by David Archibald, *The Rocks of Tobermory: A Touchstone* was chosen as the name of COEO's annual gathering for 2002. It was within this frame of mind that the planning began. Home base would be the Tobermory Lodge, and workshops would range from outdoor watercolours to "rattlesnake" mountain bike tours, aboriginal culture, daytime astronomy, and digital photography. Outbound locations would include Cyprus Lake, Cabot Head, and Flowerpot Island. Transportation would be easier for our members in the north (via the Chi-Cheemaun) and there could be a choice for members who wished to camp. For those who were organizing the event, there was a tremendous sense of tradition that had to be honoured, but at the same time, there seemed to be a wonderful opportunity to make the 2002 conference a unique and meaningful experience on its own.

Early in the planning, it was felt that because the Bruce Peninsula had so much to offer, the land should speak for itself, much like it had at Tamakwa. With this in mind, the workshop facilitators have been specially chosen for their connection with the local flora, fauna and the geological foundation upon which it all exists. From local outdoor educators and native elders to renowned amateur enthusiasts and researchers from afar, all are specialists in their field, and all are looking forward to meeting you this coming September on "the Bruce."

The workshops this year are categorized according to four major themes:

- **Outdoor Activities** (enjoying the physical and scenic side of the Bruce Peninsula)
- **Outdoor Education** (taking students to the "Outdoor Classroom")
- **Human and Natural History** (appreciating the natural world and how we have related to it)

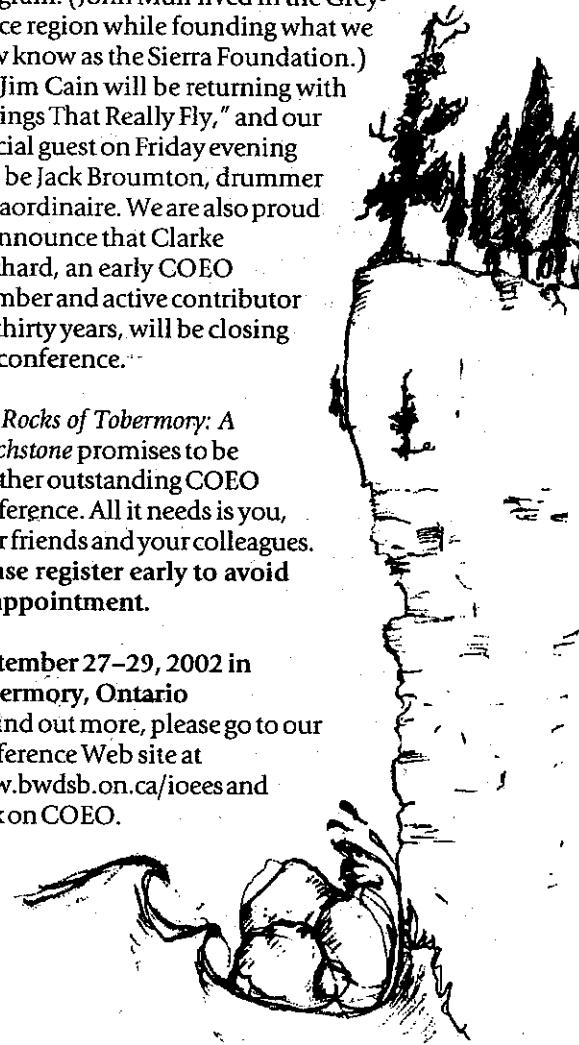
- **Issues and Ideas** (discussing key issues with colleagues)

In addition, workshops from each of the four themes will be offered in each of the three major time slots, so that conference attendees can follow a theme or mix and match as they choose. **Please note that activities will require early registration to facilitate final arrangements with service providers. Early payment of certain fees will also apply.**

The Rocks of Tobermory: A Touchstone will also feature a keynote address by Dr. Doug Larson, cliff-face ecologist from the University of Guelph, and a special visit by Dr. Graham White of the University of Edinburgh, who is visiting Canada in support of the John Muir Society Awards Program. (John Muir lived in the Grey-Bruce region while founding what we now know as the Sierra Foundation.) Dr. Jim Cain will be returning with "Things That Really Fly," and our special guest on Friday evening will be Jack Broumton, drummer extraordinaire. We are also proud to announce that Clarke Birchard, an early COEO member and active contributor for thirty years, will be closing the conference.

The Rocks of Tobermory: A Touchstone promises to be another outstanding COEO conference. All it needs is you, your friends and your colleagues. **Please register early to avoid disappointment.**

September 27-29, 2002 in
Tobermory, Ontario
To find out more, please go to our
conference Web site at
www.bwdsb.on.ca/ioees and
click on COEO.



The Rocks of Tobermory: A Touchstone

COEO CONFERENCE 2002 REGISTRATION FORM

Please complete this registration form and send with a cheque or money order, payable to COEO, to COEO Conference 2002 Committee, c/o Institute for Outdoor Education and Environmental Studies RR # 3, Wiarton, ON, NOH 2T0

Last Name: _____ First Name: _____
 Street Address: _____ Box #: _____ Apartment #: _____
 City: _____ Province: _____ Postal Code: _____
 Home Phone #: _____ Business Phone #: _____
 Fax #: _____ E-mail Address: _____

Name(s) of Preferred Roommate(s): _____
 Do You Require Pick-Up from the Ferry Dock? Yes _____ Time _____ No _____
 Emergency Contact: _____ Phone Number: _____

REGISTRATION FEES

Fee Item	Fee (GST incl)	Amount
1A – Conference, all meals, accommodations at Tobermory Lodge 1B – Same as above, but with vegan meals (add \$10.00)	Early Bird \$235.00 Regular \$250.00 Student \$200.00 Vegan Option add \$10.00	
2A – Conference, lunch and supper each day, no accommodations 2B – Same as above, but with vegan meals (add \$10.00)	Early Bird \$185.00 Regular \$200.00 Student \$150.00 Vegan Option add \$10.00	
COEO Annual Membership Fee (Family – Regular – Student – Institutional) (International + \$10.00, American + \$4.00)	\$62.00 – \$50.00 – \$30.00 – \$48.00	
Non-member Surcharge	\$60.00	
Late Surcharge (after September 13, 2002)	\$25.00	
A1 – Scuba Incidental Fees (gear rental paid upon arrival at activity) B6 – CHA MAO ZAH Materials (First Nation Craft Making)	\$40.00 Drum \$95.00 Dream Catcher \$12.00 Carving \$10.00	
Total Payable: Cheque Money Order Please make cheques payable to Council of Outdoor Educators of Ontario. A \$35.00 service fee will be applied to all NSF cheques.		

SEMINAR SELECTION — Go to www.bwdsb.on.ca/loees and click on COEO Conference 2002 for an overview of the schedule and seminar list (also refer to the conference brochure), then circle your choices below:

Seminar	Circle First Choice	Circle Second Choice	Circle Third Choice
Saturday – F	1	1	1
Saturday – A	1 2 3 4 5 6 7 8 9	1 2 3 4 5 6 7 8 9	1 2 3 4 5 6 7 8 9
Saturday – B	1 2 3 4 5 6 7 8	1 2 3 4 5 6 7 8	1 2 3 4 5 6 7 8
Sunday – C	1 2 3 4 5 6 7	1 2 3 4 5 6 7	1 2 3 4 5 6 7

Registration Information

Early registration ends **June 21, 2002**. A **\$25.00** late fee will apply to those who register after **September 13, 2002**. Refund requests must be made in writing and postmarked by **August 31, 2002**. Refunds will be subject to a ten percent (10 %) administration fee. **Memberships can be purchased for \$62.00, \$50.00, \$30.00, and \$48.00** plus a surcharge for out of Canada members as indicated above. A **\$60.00** surcharge applies to non-members wishing to participate in the conference.

Tuning into the Green Channel

In November 2001, the green channel was launched as Canada's first television service devoted to understanding and preserving the environment. For more information about the channel, visit www.thegreenchannel.ca or contact Richelle Wiseman at greengroups@thegreenchannel.ca.

ORCA Level 2 Canoe Tripping Instructor Course

Keepers of the Trail/Canadian Canoe Museum — 2002

Instructors: Linda Leckie and Bryan Poirier

When and Where: June 20–29, 2002, at Camp Tamakwa in Algonquin Park

Cost: \$850 plus 2 trip meals for 9 people

Prerequisites:

- ORCA Canoe Tripping Level 2
- ORCA Lakewater Level 1
- ORCA Moving Water Level 1

Registration:

- Completed registration form
- \$100 non-refundable deposit (payable to Linda Leckie)
- Canoe tripping resume (please log trips to include distance, your leadership role, number of days)
- Copies of prerequisites

To register, or for more information, please call Linda Leckie in Toronto at (416) 481-9526.

Ecoliteracy News

The Center for Ecoliteracy has just released a new electronic newsletter entitled Ecoliteracy News. Drawing on the real-world experiences of San Francisco Bay-area school children, the newsletter showcases the use of local ecological and sociocultural settings as a framework for developing sustainable communities. By sharing these stories, the Center hopes to encourage more dialogue about the effectiveness of place-based education. Environmental educators and students may receive this newsletter. Write to newsletter@ecoliteracy.org. Ecoliteracy News features news regarding assessment of projects, resources and an online Conference Calendar for Educators. www.ecoliteracy.org

EECOM 2002 Conference

Communité and Its Challenge:
Culture – Solidarity – Action
Montreal, Quebec
August 12–15, 2002

The EECOM 2002 Conference is co-hosted by EECOM (The Canadian Network for Environmental Educational and Communication) and by AQPERE (l'Association québécoise pour la promotion de l'éducation relative à l'environnement).

How can education help create, within our communities and building upon the heritage of cultural diversity, the solidarities needed to change how we relate to the environment? The themes of the conference invite participants to share experiences, lessons learned, challenges and possible paths for educational practices focusing on the community as a key locus for environmental education.

More information is available on the Web site: www.eecom.org. To register, phone (514) 376-1065; fax (514) 376-1905; or e-mail aqpere@crosemon.qc.ca.