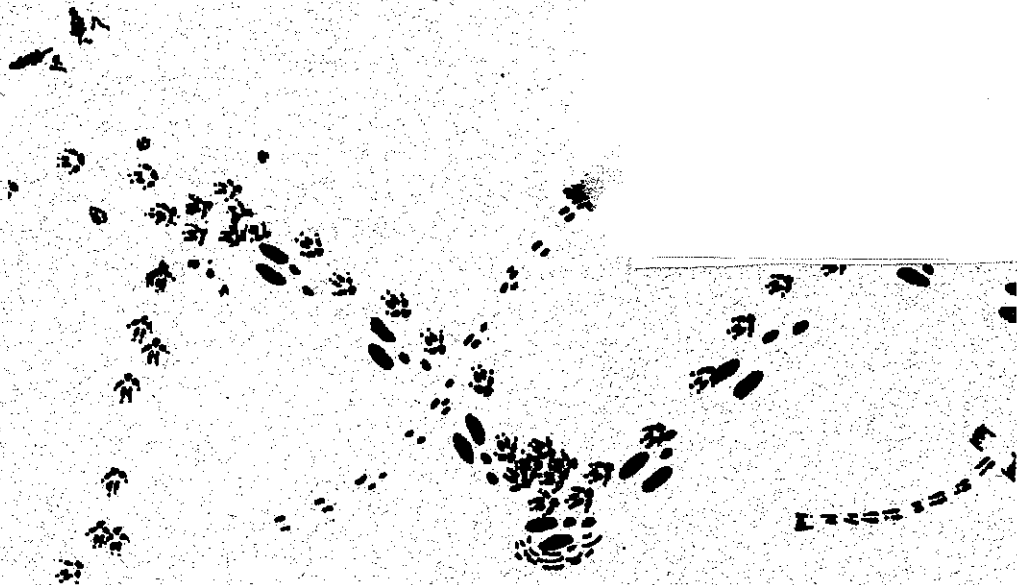
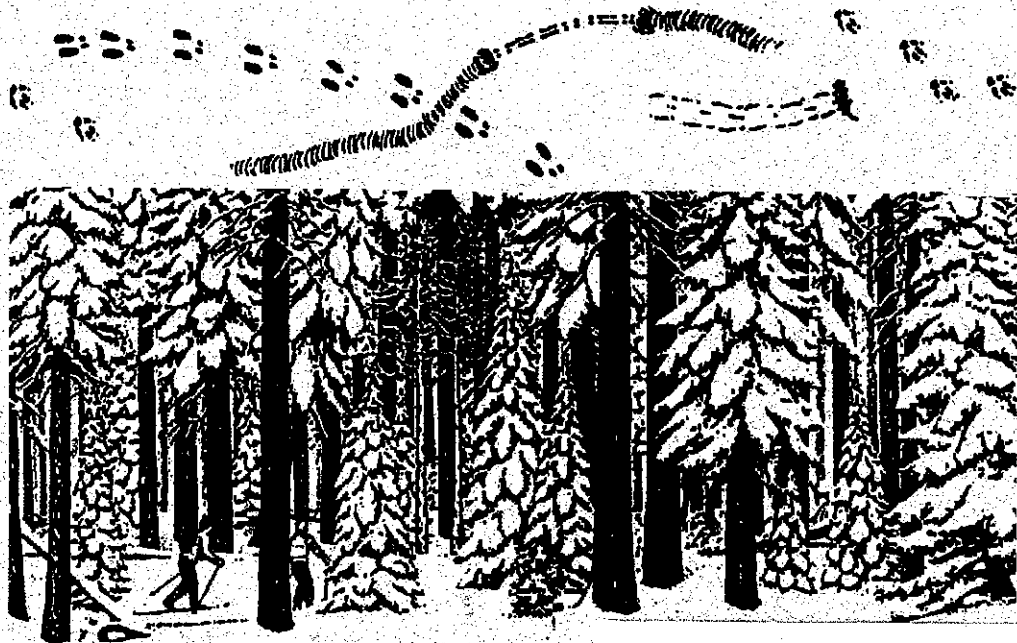


Pathways

THE ONTARIO JOURNAL

OF OUTDOOR EDUCATION

Volume 7, No. 2
January/February, 1995



"The snows of the north country bring a winter long succession of clean white pages on which are written with paw prints & feather marks, a record of the activity of wildlife."

Edwin Way Teale

Pathways

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Sketch Pad

Gus Dizerega is a regular contributor to *The Trumpeter: Journal of Ecosophy* centred out of Victoria, B.C. *Pathways* is grateful to both Gus and Alan Drengron (editor of *The Trumpeter*) for their kind permission to re-produce this fine art work here. Gus is currently living in California and is active in the bioregionalism awareness of the N.W. coast.

The tracks added to the cover and interspaced upon the pages are thanks to Steve Bowen of the Royal Botanical Gardens, Hamilton, Ontario.

The editorial board thought that it was time for a review and an update. We hope that both will spur on a new flurry of *Pathways* submissions for 1995 (not to mention a good season of winter fun).

First, let us review the goals of *Pathways* columns. IN THE FIELD is devoted to programme ideas and events. We like to showcase an Ontario facility, staff, or ideas pertinent to programming, in an article that is shorter in length than our features (typically a one to two page entry of 500-1,000 words). READING THE TRAIL is devoted to book reviews, bibliographies on selected topics, music reviews and other materials that are resources for furthering our understanding of Outdoor Education. ON THE LAND is a section for reporting current environmental issues, including the first news of a big issue, or comments on issues known to all. TRACKING includes short news items, event reports, or snippets of activities in Ontario and elsewhere that are deemed of specific or general interest. Send in your news or activities as a way of notifying readers of upcoming events or reporting on past ones.

EXPLORATIONS is a section devoted to research and new findings in Outdoor Education. It was initiated by Bert Horwood in the early days of *Pathways* and has not yet found a new reporter. We would like to reinstate this column, particularly since accountability through research, and a broadening of research orientations helpful to outdoor education practice, dominates much of the current thinking in academic circles. TRAIL BLAZERS was introduced in 1993-94 to share insights from many of our longtime COEO members. Our initial survey of such members is now mostly in print. We do hope to continue this column and so we are in the process of developing a new list of contacts. Call Clare Magee or Barrie Martin for our question format. OPENING THE DOOR is an example of intriguing student work. PROSPECT POINT is *Pathways*' opinion page or closing thought by way of art, poem, poignant prose or good fun. OUTLOOK is a report from the President or Advisory Board. LETTERS TO THE EDITOR are always welcome with excitement.

Whether or not a particular column appears in each issue depends on what we receive. We would like to keep all the columns active. So, if you have ideas for shorter submissions that fit this wide spectrum of content, please let us know. The column should serve as the means to keep the voice of COEO strong within the pages of *Pathways*.

We invite feature articles of all kinds, including those focused on adventure or environmental themes, programming ideas or issues, research reports, connecting varied disciplines to outdoor teaching, current politics within our field, etc. We regularly run theme issues, though rarely do they fill the content of all features and columns. Themes help the editorial board to structure the year's content, target certain key people for submissions, and highlight current, relevant, or neglected topics. We welcome ideas for themes, as well as guest editors to work with a member of the editorial board. Themes for 1995 are as follows: Jan./Feb. - no theme; March/April - Native Peoples' inputs/issues/teachings for Outdoor Education; May/June - Students' work in Outdoor Education from elementary to university, and ourselves in the challenging role of students; July/Aug. - Story and narrative inquiry in Outdoor Education; Sept./Oct. - Nature Interpretation. The listing of these themes does not mean features on other topics are not welcome. Quite the contrary, we do not wish to have the theme content completely dominate the issue, but rather act as a focus.

We would like to make submissions easier, now that so many people are able to send material on disc. Refer to the submission deadlines inside the front cover (consider this a rough guide and call the editor for the specific theme in question) to determine your timeline. Editors for the coming themes are: Barrie Martin and Clare Magee for MARCH/APRIL; M.J. Barrett and Carolyn Finlayson for MAY/JUNE; Bob Henderson, Carolyn Finlayson and guest Grant Linney for JULY/AUG.; Clarke Birchard and Barb McKean for SEPT/OCT. Congratulations to Mark Whitcombe for the excellent conference issue of NOV/DEC., 1994.



OUTDOOR EDUCATION: WHAT'S HAPPENING TO THE DIRECTIONS FOR THE FUTURE

Dear Editor:

A few years ago, Mark Whitcombe (1991) reported on some results of attempts to answer the questions "What has happened to impact outdoor education?", and "What is happening in other areas that influences what is happening in outdoor education?" The attempts to respond to those issues took place at a meeting of outdoor education supervisors from the Metro Toronto area. It produced a series of assumptions, implications of those assumptions, and some future directions. In essence, this was a revealing look into the future of outdoor education in Ontario.

It is one thing to look into the future; it is quite another to respond to it. As I re-read that report, it occurred to me that this potentially important article might only be scanned by outdoor educators, but may never be thought about, discussed, followed-up or acted upon. What a tragedy that would be!! I would like to suggest that the implications and assumptions described by that august group are important enough that they should now be the subject of additional scrutiny and discussion.

Outdoor and environmental educators have other important concerns. Day-to-day problems consume much of our time. Many outdoor education centres are facing closure or other severe financial constraints. We are subject to many of the same challenges that face classroom teachers. However, as educators who profess to be preparing students for the future, it is also incumbent upon us to prepare ourselves for the same future, for it shall be upon us rather quickly. I would also like to believe that outdoor educators would prefer to be proactive, rather than reactive, regarding future developments in education.

I would like to encourage and, indeed, challenge the original group that formulated this vision, as well as other outdoor education futurists, to respond to this and to present other visions of outdoor education.

Literature Cited:

Whitcombe, Mark. 1991. Outdoor education in the educational system. *Pathways* 3(3): 5-7.

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Don Morrison - In Remembrance and Celebration

We were saddened to hear of the death of Don Morrison of The Waterloo County Board of Education on Sunday, January 22, 1995. Don was one of the founding members of COEO and the originator of the Outdoor Education Department of the Waterloo Board. He taught over fifteen years at the Blair Outdoor Centre where he inspired many teachers to support and enter this area of education. Don always believed strongly in the holistic curriculum connections of Outdoor Education with the Ministry Curriculum. Under his guidance, the Outdoor Education Department grew from one centre to three and became very successful. All centres wrote cross-curricular units that were related directly to classroom units. Don believed fully in the integration of recreation and environmental education.

"A person begins to learn the meaning of life when they plant a tree in whose shade they know they will never sit."

In his outdoor career, Don taught an enrichment course for many summers at the Leslie Frost Centre. He also taught leadership courses at Bark Lake. His love of teaching and children was a driving force behind his dedication. He will be sadly missed by all.

A memorial fund called "Trees for Schools" has been set up in his honour. The funds will be used to purchase indigenous trees for Waterloo schools. If anyone is interested in donating, please send your contribution to Frank Glew, 51 Ardel Ave., Kitchener, Ontario, N2G 3X5. For income tax purposes, send a cheque made out to 'Waterloo Education Foundation Inc., Trees for Schools'.

"A person begins to learn the meaning of life when they plant a tree in whose shade they know they will never sit."

by Frank Glew



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The Touch of a Chickadee: Transforming Attitudes to Nature

Ann Bell

For several years I have been involved in the wilderness preservation movement, both as a researcher and advocate. Through my reading, writing and travels I have come to know and care about places far from where I live and work, places where few if any signs of large-scale human activity are evident. I now tend to believe, however, that nature advocates like myself also need to look closer to home if we are to make any headway in our efforts. While it is necessary that we continue to protect what we can of remote unhumanized landscapes, it is equally important that we take time out to consider the problem from another perspective, that of our day to day existence in densely populated urban centres.

When I heard outdoor educator Ted Cheskey speak to a group of wilderness preservationists about habitat restoration projects at schools, about bringing nature back into children's lives, and about paying attention to 'the wilderness within,' I decided to visit his place of work, Wrigley Corners Outdoor Education Centre. Indeed, I began to do so on a weekly basis. What follows are pieces from a recorded conversation between me, Ted, and Ken Quanz, the other instructor at the centre. The exchanges are framed and juxtaposed with personal reflections. The paper is essentially an attempt to reflect 'critically' on my experience at Wrigley Corners and about outdoor education generally. I use the term 'critically' here not in any negative sense, but rather in the manner of Stephen Brookfield, who advocates bringing a thoughtful awareness to our attitudes and behaviours, in the hope of arriving at a deeper understanding of their cultural and historical underpinnings.

Linking with Nature

Ken: There are a number of things, you know, that you're motivated with or motivated by. It's a wonderful job to be outside, to begin

with, to be out in nature all the time.

It's also really neat to be with the kids and to start to open their eyes, and to see the look on their face when they get out into nature and start to link with it, especially the bird programme. That's why we call it 'the birds: a link to nature.' You watch the toughest grade ten boys out there standing with feed in their hand and a bird lands on it and they do nothing but smile.

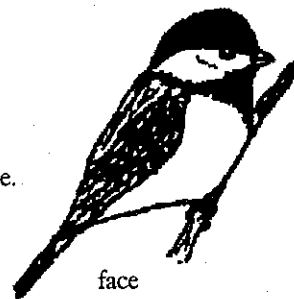
Feeding the chickadees was a constant motif in the journal that I kept of my weekly visits to Wrigley Corners. The power of the experience was undeniable. The students, like I, were visibly thrilled by the contact with a living creature, by the fact that a wild bird would take seed from our hands. On our hikes, there were always students who would lag behind to spend a few extra moments with the chickadees, not even noticing that it was time for lunch, or to catch the bus.

Many writers have expressed concern about the lack of regular contact between children and non-human nature. One of the most eloquent, perhaps, is Paul Shepard who writes:

"The absence of numerous nonhuman lives, a variegated plant-studded soil, the nearness of storms, wind, the odours of plants, the fantastic variety of insect forms, the surprise of springs, the mystery of life hidden in water, and the round of seasons and migrations - how does the lack of these really hurt the child? [...] If we replace the soft earth with pavement, we will learn in our child's heart that the planet is a desert and a dead rock." (102,103)

For many of the students visiting Wrigley Corners, the soft earth has indeed been replaced by pavement. They live urban lives, often characterized not only by an estrangement from nature, but from humans as well.

Ken: We can't reach every kid. There's a lot of anger in some of these kids you hear about,



While the enthusiasm of the students is a clear indication of the benefits of the chickadee programme, I wonder, nevertheless, what it means to them.

you know, some of these 16 year olds that are living on their own because they've been kicked out of home, and somebody's taken them in and given them a small room in the basement [...] a lot of kids are on their own and struggling...

Ted: That's true. I'd say the majority of kids come from broken families. It seems rare that the kids that open up, or that I talk with anyway, don't tell stories ... 'I spent the weekend with my father'; 'I'm moving down with my mother, but my father's still up in Kirkland Lake, back in the bush.'

Ken: *I think sometimes that that's why kids light up when they hold a chickadee, because it's the first thing that they've touched in a long time. Nobody touches them. They don't touch anybody.*

While the enthusiasm of the students is a clear indication of the benefits of the chickadee programme, I wonder, nevertheless, what it means to them. Is it as significant as we like to think? What do students take home with them at the end of the day?

Andrew Brookes cautions that nature experience is not transparent; as educators we need to be aware of the cultural baggage that is inevitably brought to it. We need to ask therefore whether the experience we offer challenges or simply reinforces prevailing beliefs and attitudes about nature, and our relationship to it. There needs to be a conscious attempt on our part, he argues, to introduce new meanings and to present alternative perspectives.

A common occurrence, while feeding the chickadees, was to have a particular bird return more than once, even fifteen or twenty times during one feeding session. Inevitably, in that case, there would be a student who would refer to the bird as a 'pig,' interpreting its behaviour as an expression of greed. Although not surprising, such remarks point to the need, I think, to listen to, discuss and challenge the way students are interpreting their experiences.

What is a chickadee doing when it returns several times for seeds in a matter of minutes? Where does it put the food? Is it a question of survival? Why do chickadees trust human beings? Are we habituating them, and if so does their reliance on us in any way compromise their

likelihood for survival? Why are we feeding them, for their sake or for ours? Do they enjoy contact with us?

During my visits to Wrigley Corners I heard most of these questions taken up in some manner or other with the students. I wonder though, if discussion around the feeding activity needs to be opened up more deliberately and systematically. To what extent should the experience be allowed to stand on its own?

In *The Natural Alien*, Neil Evernden warns that 'the presence of explanation, even anticipated explanation, transforms the experience from wonder to quizzical bemusement or indifference.' (140) Wonder, he says, is simply being aware of what is, the absence of interpretation (139).

No doubt it is important to seek a balance between explanation and wonder, between letting an experience stand on its own, and problematizing the meanings that we take from it. In our day to day existence, however, there is distressingly little occasion to greet the world as a source of wonder. Perhaps then as educators we would be wise to err on that side of the equation.

Ken: I think that that's why the outdoor centres are so important. You end up doing something that normally in a classroom you just talk about. And I think we tend to talk too much about things, trying to get all these ideas into kids' heads. We'd be much better to have kids just do a bunch of stuff, even if it's a lot less than they would normally talk about. As long as they do it I think they'll understand.

Anne: What I noticed last time we were out for a walk - and students notice it pretty much every time, but last time it was striking - was the colour of the little bluestem [a native prairie grass]. Last time it almost stopped them in their tracks, the people that were up walking with you [Ted], and I thought: it's one thing to be able to have contact with a bird, but it's something else to be able to notice that the grasses have changed colour, because plants are so taken for granted and not noticed.

Ted: What was interesting that week was that there were two groups, and the next day the

reaction was even more remarkable; and I thought: well fine, I'm going to prepare them for this and talk to them a little about the history of the area and what prairie remnants really fit it; and when I did that there was less of a reaction. It seemed like the more they knew the less they reacted to it.

Anne : That's neat, so the actual explaining took away from the experience...

Ted: It seemed to take away from the experience...

Ken: *The explanation should come after the experience, if it's going to come at all. Let the experience register and then explain the experience.*

Traditional Science

But what sort of explanations should we be giving? Most students who come out to Wrigley Corners do so as part of their science programme. The preparation and followup for their experience then fits to some extent within the traditional scientific paradigm that we, in Western society, have inherited from Descartes (rational) and Bacon (empirical). This concerns me, for as many writers have shown, the insistence within that tradition, of separating humans from nature, mind from body, reason from emotion, and fact from value, lies at the heart of the environmental crisis (see especially Morris Berman, *The Reenchantment of the World*).

While there are different ways to teach science, of course, educators need to be aware of the values and beliefs that underlie their approach, particularly since science wields such overwhelming authority in our society. As Donna Haraway explains:

A scientist is one who is authorized to name what can count as nature for industrial peoples [...] A scientist 'names' nature in written, public documents, which are endowed with the special, institutionally enforced quality of being perceived as objective and applicable beyond the cultures of the people who wrote those documents. ('Primateology is Politics by Other Means,' 1988, 79)

What she and others have demonstrated is that 'scientific practice is above all a story-telling

practice in the sense of historically specific practices of interpretation and testimony' (*Primate Visions*, 1989, 4). Haraway reminds us that science is a product of a particular culture at a particular moment in history and that therefore it can provide only a partial perspective of reality.

What might this mean in terms of teaching and learning? It would not mean ignoring science certainly, but it might mean demystifying it.

Ted: Throwing those articles in, just throwing them in, and having them react to them any way they want. I don't know any other teachers in grade ten who would photocopy a scientific article and have that as the prep for the programme. It's wonderful.

Anne: Probably nobody would do that...

Ken: Well, eventually they will, because once we get somebody doing it and we start picking up on these articles and see what works with kids - we don't have that much time to work directly with the kids - once we see what works, then we start to suggest it to other people.

Ted: The idea of even reading that one page out of the 'Birds: a Link to Nature' - they should be doing that, the grade sevens could be doing that. It's easy, it's straightforward information.

Ken: There's no reason why grade sevens, some grade sevens or grade eights, couldn't be reading 'The Tiniest Established Floating Crap Game'

Anne: The what?

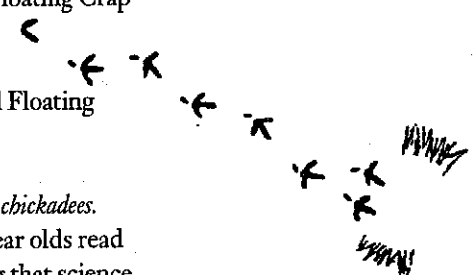
Ken: 'The Tiniest Established Floating Crap Game'

Anne: What's that?

Ted: *It's a scientific article about chickadees.*

Letting twelve and thirteen year olds read such articles is one way of showing that science is not solely the domain of an expert elite. I wonder if students might also be encouraged to read the articles as cultural narratives rather than as gospel truth, to look, for instance, at the metaphors (mechanical, economic), or the characterization (dominant, aggressive, human-like ...) of the animals described. Students learn how to decode poetry and Shakespeare: could scientific texts be decoded in a similar way?

In our day to day existence, however, there is distressingly little occasion to greet the world as a source of wonder.



The challenge as I see it would be to try 'to hold different truths in our hands at the same time without smashing the ones we don't like.'

I do not wish to imply that the information in the articles should be treated as invalid or fanciful, but rather that the students be taught to distinguish between scientific accounts and 'the way things are.' The practitioners of biology, says Haraway (89) 'tend not to see themselves as interpreters but as discoverers moving from description to causal explanation...' We should contest this 'powerful ideological fiction.' (13)

Along these lines, it might be helpful to introduce information from other sources, representations by artists, texts from other cultures, stories from the students' lived experience. The challenge as I see it would be to try 'to hold different truths in our hands at the same time without smashing the ones we don't like.' (Barb Thomas, 2)

Qualitative Experience

To discuss the traditional scientific paradigm in relation to what goes on at Wrigley Corners is perhaps a red herring. Although some attention is paid to gathering quantitative information, the focus of the day's activities is on the qualitative experience, on connecting with nature. I remember on my first visit, for instance, lying down in the little bluestem prairie, just to be quiet by myself for a few minutes. Ted had suggested that all of us, teachers and students alike, take time out in this way, because we were in a special place, and because we so seldom get a chance to be by ourselves and listen to the wind in the grass. On other occasions Ted has coaxed us into tasting sumach berries, wild grapes and hemlock needles and suggested that we squish dogwood berries between our fingers to feel their oily texture (just like hand cream, he said).

Ted: There's a lot of interesting things happening there... the beauty of the landscape, another thing's tasting the snow. To me it's important to make the experience tactile as well. You can think about not eating snow, but the more we get kids out feeling and tasting and smelling and so on ... I always enjoy that. I like the idea of stopping, and I'll just go and do it without even saying anything, you don't have to

say anything, you just grab a little bit of snow, you're thirsty, and then they look and say to themselves, 'Oh, I can do that too', and they'll do it...

Ken: Teaching by example...

Ted: But to the primal side in people that is much more connected.

Part of connecting with nature, in industrial society at least, entails unlearning certain cultural biases. At Wrigley Corners, this is encouraged through direct experience. Ted convinced me and several students, for example, to hold a leech in the palm of our hands (the first step in overcoming a deep-seated fear and loathing?).

We came across the leeches as part of a pond study. This is one activity which requires a fair bit of preparatory explanation, since the students must handle the equipment necessary to measure the temperature and oxygen content of the water, the pH level, and so on. Even the nets and buckets with which the students are to catch and examine the pond's inhabitants require some instruction.

The study essentially unfolds in two parts, first the measurements, and then a close look at the creatures living in the water. My impression is that the students dispense with the first part as quickly as possible, in order to get on with what really interests them: inspecting the salamanders, tadpoles, leeches, snails, backswimmers, dragonfly nymphs and other pond dwellers. It is the living entities normally hidden from view which hold their attention, not the numbers. As they scoop and uncover animals that they never knew existed, they seem oblivious to the passage of time.

Rarely do we humans take time out to look closely at the beings living all around us. If we did, perhaps we would think twice about our plans to landscape, 'improve' and otherwise manage wild nature. Providing an opportunity to discover and interact with non-human life, the very existence of which we so blithely ignore, is one way of challenging the mechanistic, utilitarian worldview which predominates in our society. It should be regarded as one of the primary justifications for outdoor education.

Beyond One Day

In our recorded conversation, we returned frequently to the limitations inherent in a one day excursion to an outdoor education centre. The danger, I feel, is that the link with nature will be experienced as an isolated event, very much separate from everyday life. Indeed, Brookes remarks that:

Outdoor education often attenuates or suspends the more impersonal, large scale relationships which characterize the wider community, allowing us to temporarily escape to a world where life is much simpler.

Yet, if outdoor education is regarded as an escape, or a holiday, then it risks reconfirming the split between humans and nature that we should be struggling against in the first place. Unless students perceive both a need and an opportunity to bring nature back into their daily lives, outdoor education will do little to challenge traditional school culture.

In *Nature and Madness* Shepard describes America as: one society - the world's most ferocious destroyers and yet the most fanatic preservers of wilderness parks and endangered species. (87)

Certainly as a conservation advocate I am beginning to understand how the two, the destruction and the preservation of nature, are intimately linked. It is only because we set aside nature in parks and protected areas that we feel justified in our continued exploitation of it.

'Wilderness and wildness are placed on the supermarket shelf of values along with everything else,' says Thomas Birch. 'Wilderness, like religion and morality, is fine for weekends and holidays, but during the working week it may in no way inform business as usual.' (21,23)

How does one begin to face up to this fundamental problem, our alienation from our own life context? While there are no obvious answers, perhaps the following comment by Joseph Grange could serve as a guiding light:

"[H]uman homecoming is a matter of learning how to dwell intimately with that which resists our attempts to control, shape, manipulate and exploit it. (as quoted in *The Natural Alien*, 69)."

Anne: ... the possibilities that open up, this is what strikes me, just for that one day, even to see students so curious, and asking questions, and so wrapped up in what they're doing whether it's the pond studies or looking at the ducks.

Ted: That certainly is one of the things that has motivated me to get involved with habitat restoration [...] I think that the contact has to be regular. School yards and things closer to them give them that chance to develop that opportunity.

There seems to be no opportunity, logistically speaking, to have more frequent, repeat visits by the students to Wrigley Corners: it is already booked to capacity, as are the other outdoor education centres in the Waterloo Board; and student/ teacher timetables don't allow for much flexibility. One possible way to work around such a constraint is to invite students to visit natural areas during their spare time - an invitation which will not be taken up equally by all students. Another is to encourage teachers to step outside of the classroom more often to conduct field trips within walking distance of their schools. Obviously, they are more likely to do this if interesting natural areas are to be found on school property. This is what makes habitat restoration projects and wildlife gardens so promising.

Ted: Some of the schools have had gardens going for a few years, for example, the Three Bridges School. They're always using it, constantly using it, and there are a few teachers that do that, be that for work or be that for other curriculum related things. And the teachers who aren't quite as interested see the ones out there and then they'll take their kids out there as well, so there's a very synergistic effect happening within the staff, the small staffs. Larger staffs ... it's going to be a bit more challenging, there's going to be more of a lag time. I'm sure, it's just like anything, once the benefits and advantages are observed by the ones that are in the classroom and are dealing with the kids that are going off the wall, once they look out the window and their kids see a group out there doing something interesting, that's going to spread. I don't think

*Ted convinced me
and several stu-
dents, for example,
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of our hands*



FOX



we need to force it. It's just going to happen naturally. Schools seem to have quite a bit of leeway in how they use these areas and how they fit them into the curriculum, and the principals that want to do that are the first to say kids can be out there as much as they want with the teachers.

Challenging Traditional Images of Nature

Ted: This is different, you know it's challenging a lot of traditional images of what school yards are all about.

[...]

Ken: They [the teachers] have to transcend the weed philosophy too.

Anne: Yes, what is the underlying philosophy there, because I think it obviously challenges what people consider acceptable for yards and gardens and values in terms of plants.

Ken: It's the opposite of the manicured lawn.

Anne: Are people really conscious of that and accepting of that?

Ted: It varies. Teaching is still, I think, a fairly conservative profession. I think that still the dominant paradigm is probably the traditional one. The people who live in subdivisions, suburbs and so on, have grown up with these images and those experiences; but on the other hand, I think that there is probably a higher proportion of people that are open to the opportunity.

Anne: I was wondering about the traditional scientific paradigm, you know, nature as an object which you control and put under the microscope: do you see it as challenging that sort of approach to the natural world?

Ted: Certainly we do as much as we can.

Ken: I think as teachers move into a natural garden they won't be challenging that, at the beginning. They'll be into the management mode, and the longer they're into habitat restoration the more they're going to see the folly of the management mode ...

The notion of nature as an object or 'resource' to be managed for human benefit goes

hand in hand with the traditional scientific paradigm. Both are based on a number of common assumptions: that humans have a proprietary right to control and use the non-human; that there are no limits to our ability to understand and therefore manipulate nature to our advantage; and that despite the serious ecological and social problems we are now facing, we can continue to prosper and progress if we put our minds to it. David Ehrenfeld rightly refers to this mindset as 'the arrogance of humanism.'

I suspect that, for most people, the idea of a wild garden is a contradiction in terms. This is because we think of gardens as ours to tend and tame. And although any garden, no matter how wild, will involve a certain amount of human meddling, one only has to see the school yard at Wrigley Corners to understand to what extent habitat restoration challenges customary horticultural ideals. Chock full of native grasses and plants that are commonly considered weeds (golden rod, milkweed ...), the garden is the opposite of a showy, cultivated floral display. It strikes the eye as messy, disorganized, and totally out of control, and this is the secret of course, to both its ecological and symbolic value.

We can safely assume, I think, that from an ecological perspective, gardens comprised of a wide variety of native plants are better, healthier, for humans and non-humans alike. They are pesticide-free and provide food and shelter for a wide array of insects, birds, and small mammals. Of equal importance to me though, is what such gardens might represent in terms of a shift in values, a rethinking of the way we relate to the non-human. Are they an indication that we might yet learn to live intimately with wildness?

Challenging Traditional Images of Teaching

Anne: What kind of things do they [teachers] need to be able to take advantage of those gardens? [...] Do they have to be able to recognize native plants from non-native plants and understand how to garden?

Ted: Well, very few do, so that's a big constraint.

Ken: That's part of a learning curve, I think. It's not that much to learn.

Ted: And it's also a state of mind, I think, that has to happen, to transcend the insecurity of not knowing, the idea of going out ... if they know how to teach, to me that's the important thing. If they know how to teach then they can learn the names and so on with their students.

Anne: So the teachers are actually learning at the same time ...

In learning to appreciate and live with wildness, perhaps we, as educators, can learn to live with uncertainty too. Again, this would mean running against the grain of societal norms. Teachers are expected, by parents, administrators and students alike, to have their classes fully under their control at all times. This entails first and foremost having mastery over the subject to be taught. Authority depends on expertise, and to a large extent, so does winning the students' respect and cooperation.

To assume the role of a learner, along with one's students, is to make oneself vulnerable to criticism from all directions. Students are used to the imposition of authority, and may be at a loss to respond to a less hierarchical arrangement. Their understanding of what constitutes teaching and learning (a rigid dichotomy) may not allow it. One of the frightening things about education in our society is that it leads us to accept hegemonic relationships: our power over others, and others' power over us. Complicity in such an arrangement can be reassuring and comfortable.

As students develop authority dependence, asserts Ira Shor, 'they rehearse their futures as passive citizens and workers' (29). Passivity and dependence are encouraged, I believe, by traditional classroom structure and practices. Students are expected to acknowledge as legitimate the authority of both the figure at the front of the classroom and the information that they are being fed.

In overcoming the dichotomy between teaching and learning, we must be 'prepared to die as the exclusive educator of the learner,' says Paulo Freire. 'In essence, the educator has to live the profound meaning of Easter.' (as quoted in

Shor) While this may sound a little dramatic, the point is that we need to think critically about the 'banking' model of education: is knowledge just another commodity to be passed on by teachers, then stored away by students for future use in tests or exams? Or could it be something that we participate in and develop collectively, something that will be meaningful to our lives?

Transformative Outdoor Education

Anne: So what happens when you do cross-country skiing?

Ted: Where does that relate to environmental education, is that what you're asking?

Anne: Yes. How does that fit in?

Ted: I would like to be able to say that we teach it through an environmental education mode. It's really ... The kids are there, they want to ski. That's the most important thing. It's the attraction of the technology, and being able to master the technology that's the first interest of the students. What we want to do is make them as comfortable as possible in doing that so that they're not fighting against themselves, and in that mode they're going to be able to appreciate what's happening around them a lot more. I stop and try to, not lecture, but point out a few things, and sometimes that works, but sometimes they just want to ski.

Ted: Yes. And skiing, if they come to like it, can become a leisure activity, and it will become a way that they can spend more of their own personal time developing that relationship. I don't know, I'm not speaking for Ken, but that's the way my thought has come around with skiing. I enjoy it very much myself, and I love doing it with my kids. I can see that they love that. They love the idea of skiing; they love the idea of going fast down hill and being able to go places where they normally wouldn't in the winter. And it just gives another opportunity to link with nature.

Ken: You get the kids outside to begin with, kids that wouldn't normally be outside enjoying a winter sport that isn't on a snowmobile.

Anne: Or downhill skiing.

Ken: Downhill skiing, something that takes a lot of money. At the same time this isn't our

...is knowledge something that we participate in and develop collectively, something that will be meaningful to our lives?



RACCOON



WHITE-TAILED DEER



only programme in the day. It's a half a day and they have another programme during that half day. It could be chickadees or something like that, where they're out linking with nature on an environmental side. But when we are teaching skiing, we're teaching first of all technique. Now, when we do it, Ted and I are both out with a class and we divide it in two, so that the most you ever have in a group usually is around fifteen. Usually it's more like twelve, thirteen, fourteen, kids, which is enough, and then we have a teacher with us, usually each of us, so you work with a smaller group. I think, from my experience, the kids at the front, the better skiers, are getting more of an introduction to the environment as you're going along. They're the ones that would see the deer or the squirrels or whatever, see what they're doing in winter. At the front, every once in a while you have to stop to wait for some people, so that's the time you get to talk and point out some things to the kids, and they point out things to you ...

There is something evangelical about the environmental movement, and a pitfall for any environmental educator would be to fall into a missionary role. Perhaps then, the strength of an activity like cross-country skiing is that the students can be engaged without being overpowered (and turned off) by the instructor's personal convictions. An alternative perspective can be communicated and articulated through the opportunities that are provided to experience life differently.

'Languages of transformation,' wrote Dian Marino, 'are often complicated because they propose an alternative and try not to reproduce relations of power over people or places or other species.' Outdoor education, for instance as it is practised at Wrigley Corners, could be regarded as a language of transformation. It is not so much a spoken language, as an embodied one. It is complicated certainly, embedded as it is in mainstream education with all the conceptual and institutional constraints that that implies. But these are counter-balanced by the possibilities that are created to teach and learn in ways different from the habitual, human-centred classroom routine.

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A BRAVE NEW WORLD: Educating for Personal and Societal Empowerment

Glenda Hanna and Nestor Kelba

*"Lives based on having are less free
than lives based either on doing or being."*

William James

A few call it the decline of Western Civilization as we know it. Most others aren't quite as pessimistic in their view of the short and long term ramifications of the economic and environmental problems we are experiencing. However, many do agree that our children and grandchildren are not likely to enjoy the same high standard of living our generation has come to expect. Too bad.

Or is it? In just the last half-century, our society has experienced exponential population and technological growth. The astronomical increase in our use of technology has been accompanied by energy consumption and waste production unprecedented in previous history. Even more disturbing has been the fact that our economic sustainability has become not only supportive, but in reality dependent on this rampant unconsidered consumption. It has become a sad commentary on the state of the nation that those who live so as to embody the virtues of independence, ingenuity and frugality are negative contributors to the economy. It is truly disturbing that our economy has come to rely more on its citizens' ability to spend and consume than on their ability to do and save (Beidler, 1986).

The Federal Government has recognized the significance of connecting Canadians with the land en route to achieving a new, more sustainable paradigm. The Active Living Environment Program (ALEP) was designed to encourage and support people choosing to actively participate in outdoor environments in a way that contributes to the well-being of themselves and the environment. The program seeks to promote increased

participation in outdoor recreation, develop in people a concept of active living and a positive outdoor ethic, and is designed to foster the establishment of a clean environment. The challenge will lay in sharing this vision with the Canadian public at all age and social strata. The Active Living Environment Program is designed to integrate such values into peoples lives.

Educators of the present and future generations of youth will be confronted with the challenge of helping them understand the consequences of the path their parents and grandparents chose so they may consciously select one that will be less impactful, and perhaps, as James' comment above suggests, more satisfying. Philosophers and educators adhering to Naess and Sessions (1985) deep ecological ideology refer to this change as one focusing on "appreciating life quality (dwelling in situations of inherent worth)" rather than remaining devoted to increasing the standard of living (i.e. the difference between big and great).

Teachers in the formal education system will have a role to play from kindergarten through high school. However, as children younger than eleven or twelve years have a more difficult time grasping abstract concepts (Piaget, 1954) such as self-reliance, quality of life, and self and environmental realization, the Junior High School years (grades 7-9) are crucial in educating for these different realities and expectations. In addition to learning and applying such formal cognitive operations to comprehend the world, we must also recognize that young adolescents are focused on establishing a sense of self through personal challenges and on

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The three levels of experience reflect three stages of an experiential education process: assimilation, application and integration.

establishing new relationships with peers, others and the environment.

The Calgary Board of Education responded to the desire to match the emerging needs of society with those of the adolescent by developing a holistic program in environmental and outdoor education. This experientially based course of studies encourages sound personal, group and societal decision-making which reflects an appreciation for real consequences. The program involves students in the examination of personal and interpersonal effects of their actions, as well as the importance of their interrelationship with the environment.

ENVIRONMENTAL AND OUTDOOR EDUCATION COURSE OF STUDIES

Before describing this program, we want to acknowledge that parts of this section were originally written and published in the *Junior High Environmental and Outdoor Education Teacher Resource Manual* (Alberta Education, 1991). This 157 page manual not only addresses the philosophical underpinnings of the program, but provides a substantial amount of information related to course content, resources, unit planning, lesson planning, and safety and evaluation, all of import in delivering a program of this scope and depth.

COURSE FRAMEWORK

The Junior High Environmental and Outdoor Education course of studies became a recognized elective across the province of Alberta in the 1991-92 school year. The course may be offered as a single course at the grade 7, 8 or 9 levels, or as a sequential program of up to three years. This course is separate and distinct from the Outdoor Pursuits component of the Physical Education Curriculum.

The course is comprised of six elements, each reflecting a unique set of learner expecta-

tions. These course elements are:

- Outdoor Core
- Personal and Group Development
- Environmental Core
- Outdoor Expeditions
- Environmental Investigations
- Commitment to Action

Each course will include a balance of content and process relevant to each of the six elements at three progressive levels: Foundation, Exploration, and Empowerment. However, the relative emphasis will change over second and third course offerings to reflect an increased emphasis on the Exploration and Empowerment levels. The three levels of experience reflect three stages of an experiential education process: assimilation, application, and integration. At the Foundation level of experience, students assimilate the basic knowledge, skills and attitudes that will preface learning in subsequent levels. The Exploration level offers students the opportunity to apply the knowledge, skills and attitudes acquired from the Foundation level to real-life situations. In the final Empowerment level of the framework, students incorporate their school experiences into their lives. The Environmental and Outdoor Education Program Model (see Figure 1) illustrates these three levels, the six course elements and related general learner expectations.

Course Articulation

The six elements are also developed along three distinct but interrelated strands: Environmental, Outdoor Recreational, and Personal and Group Development. Each strand begins at the Foundation level and progresses to the Empowerment level. In addition, each strand incorporates the processes of assimilation, application and integration into its development. The three strands and their relationship to the three program levels are illustrated in Figure 2 and explained below.

The outdoor strand begins by establishing a foundation of knowledge, skills and attitudes through the Outdoor Core. Before any field trip, regardless of duration, students must have the basic concepts, skills and attitudes to ensure that the trip will be a safe, enjoyable one. The Outdoor Expeditions element of the model provides students with the opportunity to apply many of the skills acquired in the Outdoor Core. This strand culminates in Commitment to Action where students identify and act on plans to incorporate outdoor recreational experiences into their lifestyles.

The personal and group development strand follows a similar pattern to the outdoor strand. At the Foundation level of experience, the Personal and Group Development element, establishes basic awareness and understanding of self and groups. At the Exploration level students have an opportunity to apply this self and group understanding to problem solving in both the Environmental and Outdoor Expeditions elements. In the Commitment to Action element, students build on, or develop as part of their personal growth, plans identified in Exploration.

The environmental strand begins with the introduction of material from the Environmental Core. Here, students establish a basic awareness and appreciation of local environments and an understanding of the basic ecological principles that apply generally to all environments. Building on this foundation, students are then introduced to Environmental Investigations, where they apply individual and group problem-solving skills to specific environmental studies. Students investigate current practices and the advantages, disadvantages, consequences and alternatives to each, arriving at informed decisions regarding each option. At the Empowerment level, students work toward a personal Commitment to Action where they are encouraged to establish personal plans for environmental action, act on and evaluate these.

Integration of Strands

The integrative nature of the Junior High Environmental and Outdoor Education course of studies provides for the development of several

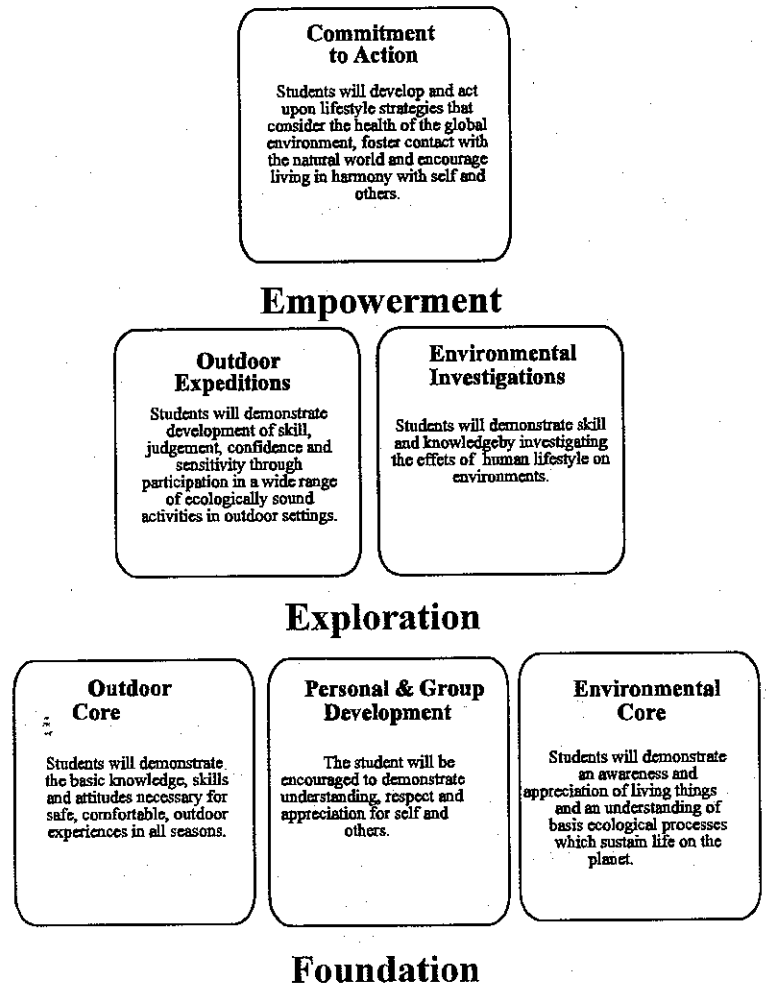


Figure 1. Environmental and Outdoor Education Program Model (Alberta Education, 1991).

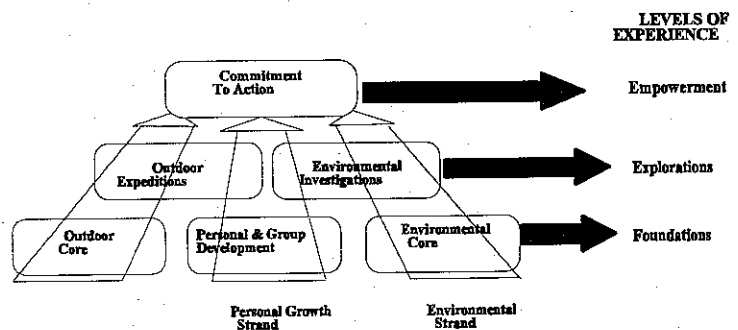


Figure 2. Environmental and Outdoor Education Programmatic Strands (Alberta Education, 1991).

The outdoor strand supports the environmental strand by providing students with basic self-care skills that enable them to comfortably travel and live in the environment for the purpose of exploring and studying it, both themselves and their environment.

learner expectations in any one activity. For example, the development of environmental awareness and appreciation, which is part of the Environmental Core, can be achieved in combination with the Outdoor Expeditions element of the course. Concrete experiences in outdoor skill development can complement the ecological concepts that are required as part of the Environmental Core. The Outdoor Expeditions element further complements the environmental strand by providing students with the opportunity to see concrete examples of the effects of humans on environments. The outdoor strand supports the environmental strand by providing students with basic self-care skills that enable them to comfortably travel and live in the environment for the purpose of exploring and studying it, both themselves and their environment. The personal and group development strand encourages students to live in harmony with themselves and others. In doing so, their outdoor activities will be enriched and their environmental actions will prove more effective and enjoyable.

Development of the Empowerment level of the course grows out of previous work in Exploration and Foundation. As a culmination of the outdoor strand, the course encourages students to maintain their skills and social relationships so they can continue having contact

with the natural world. Such contact leads students to greater awareness and appreciation of their environment, thereby increasing the likelihood that they will act responsibly on its behalf. The environmental strand leads students to continue to look at the effects that their lifestyle has or will have on the environment, and promotes continued positive personal action. Through their awareness and appreciation of environments and their understanding of ecological principles, students will be better able to make quality decisions and become independent-thinking individuals demonstrating personal realization in harmony with and not at the expense of their environment.

Program Direction and Components

"True teachers use themselves as bridges over which they invite their students to cross.

Then having facilitated their crossing; joyfully collapse, encouraging them to build bridges of their own."

Nikos Kazantzakis

As each course develops, it shifts in focus from teacher-directed learning in the initial phase to teacher-facilitated activities and student-initiated action (see Figure 3). As a course(s) move into the Empowerment level, students accept more responsibility for determining what will be studied, how and where. Allowing students increased responsibility as they move through the environmental, personal growth and outdoor strands will improve the likelihood of students making quality lifestyle decisions and acting on them, both during and following the course(s).

Each course has required and elective components, defined as follows:

- The required component includes learning experiences provided to all students to ensure acquisition of fundamental knowledge, skills and attitudes.
- The elective component promotes a more individualized program by providing opportunities for adaptations and enhanced instruction addressing the diverse needs, abilities and interests of individual students.

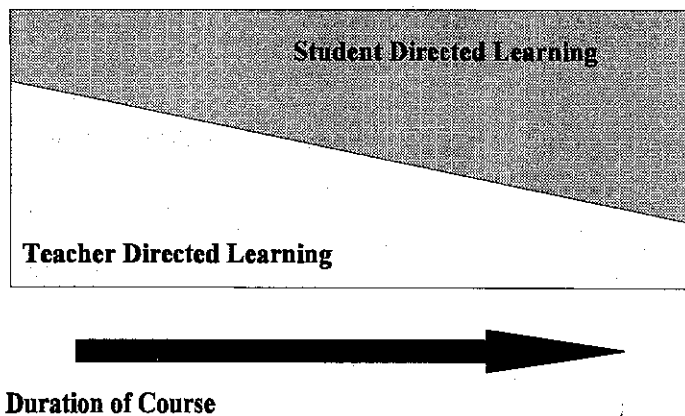


Figure 3. Responsibility for Learning (Alberta Education, 1991)

Sample Unit Plan

To illustrate the concepts and process described above, a Sample Unit Plan has been provided. The Plan will demonstrate ways of bridging program elements and activities to develop a particular content area (The River) across all three levels (Foundations, Exploration, Commitment to Action) and strands (Outdoor, Personal and Group Development, Environmental). The program resources have been developed to support teaching and learning a variety of themes within this model, but teachers are really only limited by their own creativity.

SUMMARY AND CONCLUSIONS

Pending environmental and economic crises are providing Western society with impetus to reconsider the concept of quality of life. As Samuel Johnson concisely put it, "Imminent hanging sharpens one's wits." Whether driven by desire or need to change, educators are realizing the role they must play in helping define this new reality and guiding our youth into this brave new world.

The Environmental and Outdoor Education Junior High School course of studies in Alberta provides a model of holistic education designed to help young adolescents make lifestyle choices based on doing and being rather than having. This program has students trek along three paths or strands (Environmental, Outdoor Recreational, and Personal and Group Development), ascending up three levels (Foundations, Exploration, and Empowerment). The paths cross frequently over the six program elements (Outdoor Core, Personal and Group Development, Environmental Core, Outdoor Expeditions, Environmental Investigations, and Commitment to Action), reflecting the integrated nature of the strands. This model program deserves special consideration by others engaged in developing tomorrow's decision makers.

For more information regarding this program, please contact:
Alberta Education
11160 Jasper Avenue
Edmonton, Alberta T5K 0L2

Learning Resources Distribution Centre
12360 142 Street
Edmonton, Alberta T5L 4X9
(Write here for *Teacher Resource Manual*)

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Applied Ecology: The Newsletter of Environmental Solutions

From *Connections*: The Newsletter of Environmental Ed. Council, Alberta Teachers' Association, Fall 1994.

First published in 1993, *Applied Ecology: The Newsletter of Environmental Solutions* provides practical information on maintaining biodiversity and reducing greenhouse gas levels, the two most pressing global environmental problems identified at the Earth Summit in Rio de Janeiro.

This newsletter is the only one of its kind in North America. Its tips for reducing greenhouse gas levels range from energy efficiency and fuel conversion to a critical examination of available products. Most of the best energy-efficient technology is less than a year old; these ongoing developments are reviewed in *Applied Ecology*. Reports describe which methods and techniques are most effective in halting global climatic change.

Advice on creating wildlife habitat is useful for private gardens, company and school lawns, and the local community. Attracting native wildlife, water gardens, and native plants are some topics covered. All information is appropriate for Alberta ecosystems and climate conditions.

Articles are referenced and are appropriate as curricular supplements.

Annual subscriptions (for four issues) cost \$10.95. To subscribe, contact Centre for Applied Ecology Inc., 101-10507 81 Avenue NW, Edmonton T6E 1X7; phone 448-2632, fax 439-2479.

SKY SCHULTZ

SKY SCHULTZ (Prof. Oops) IS BACK. Yes, the good professor will be back in Ontario in May or June. He is available for bookings. (He is quite an authority figure, isn't he?) People from the COEO conference at CAMP AROWHON, ALGONQUIN PARK will, of course, remember the quote of the day, the awe-robics we felt and acrobatics we watched as Oops performed his message of acknowledgement of and caring of our cultural environmental

dilemmas. He is magical, and it works. Contact him at:

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SQUIRREL

For either course, contact Brent Dysart, COEO Professional Development Committee Chair, 457 Stillmeadow Circle, Waterloo, Ontario, N2L 5M1. (519) 885-1289 school / home (519) 885-2836.

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Registration closes soon! There is a 16-person minimum limit for each course we must reach or COEO cannot run these courses.

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Time: 10:00 A.M.

Date: Saturday, April 1st, 1995

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Together we share: experiences to better understand Aboriginal people, their culture and relationship to the earth; ideas, opportunities and resources for educating students; information on matters related to environmental protection and resource conservation.

March 2—4, 1995 at the Frost Centre, Dorset, Ontario. Registration from 11 A.M. to 1 P.M., Thursday, March 2, and workshop finishes Saturday at 3:00 P.M. Cost is \$190.00

Sponsored by the Ministry of Natural Resources, Nipissing University and First Nations partners.

Contact Susan Purves at (705) 767-3263 or Barrie Martin at (705) 766-2451 as soon as possible — spaces are limited!

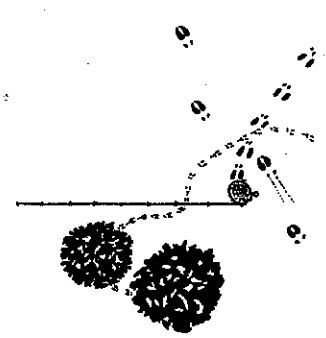
(The workshop will be re-run September 22—24, 1995.)



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For educators who want to introduce their students to the positive and intriguing use of computer technology in the study and conservation of ecosystems: Hands-on experiences with the most commonly used educational networks: Internet, SchoolNet, WebCanada, Electronic Village; Specific case examples of how GIS, GPS, remote sensing, and other technologies are used in ecosystem monitoring and conservation; Activities and examples to take back to the classroom!; Contacts who will continue to support you!; an exhibits area showcasing products for the 21st Century classroom.

May 26—28, 1995, at the Frost Centre, Dorset, Ontario. Cost is \$200.00. Contact reeds@epo.gov.on.ca, or the Frost Centre at (705) 766-2451 (tel) / (705) 766-9677 (fax).

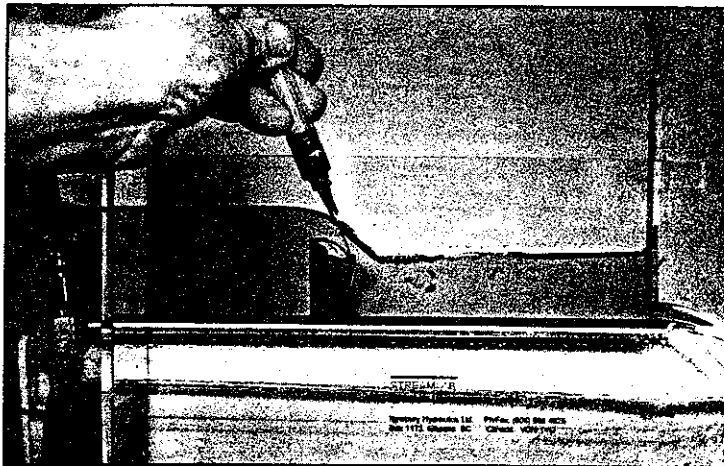


Necessity is the mother of invention. Back in the 1980's hydrologist Dr. Robert Newbury was working on the Riding Mountain watershed, which flows into Manitoba's Lake Dauphin.

Channelizing of many of the streams, begun many years before to drain agricultural land, was killing off once healthy fish populations and causing huge expenditures on dredging to keep the straightened channels from clogging up and flooding farms during spring run-off.

Gradually, Newbury and his associate, biologist Marc Gaboury, were able to rehabilitate a number of key streams. The work goes on today and pickerel and other forms of aquatic life are returning in strength as once silted-in deltas clear up and pools and riffles are restored to provide spawning beds and improve fish habitat and food supply.

So where does necessity come in? The two scientists had to explain what they were doing to local farmers as well as to scientists, engineers and government officials. Which is where Newbury's invention comes in: STREAMLAB, which he calls "A Hydraulic Demonstration Flume. A miniature open channels hydraulics laboratory".



Free overflow in the STREAMLAB flume

In simple terms STREAMLAB is a device for bringing a river into a classroom or lecture hall. Fitting neatly into a small carry bag, it is easily assembled for interactive, table top use by small groups, as well as for large screen projection by means of a standard overhead projector

and an inverting mirror. What the audience gets is a fish's eye view of dynamic water flow a metre high and three meters wide or larger.

Water is recirculated by means of a submersible pump. Volume and velocity are controlled by an inlet valve and exit gate. Various model channel inserts such as the Ogee Weir, Sharp-Crested Weir, and Pools and Riffles demonstrate differing flow characteristics. The kinds of observations, experiments and demonstrations include introduction of fish fry and benthic organisms, use of a pitot tube to make velocity calculations, and insertion of dyes to show such things as recirculating eddies and turbulent and laminar flow. The nice thing is that applications of STREAMLAB are flexible and limited only to the imagination of students and teachers.

That has certainly been Dr. Newbury's experience. He has lectured and conducted workshops in Sweden, France, South America, Australia and throughout the U.S. and Canada, returning at least once a year to where it all began, to tiny Wilson Creek near McCreary, Manitoba, to give an on-site course, along with Marc Gaboury, on Stream Rehabilitation. In all these travels STREAMLAB goes along with him, an invaluable device for allowing his audience to visualize and so to gain an understanding of the under-surface dynamics of water flow, an understanding which is so vital to restoring and preserving the health of the planet.

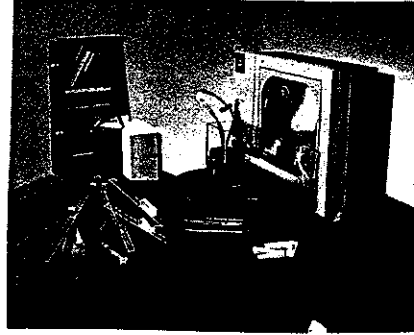
I have spoken to several teachers who have experimented with a STREAMLAB prototype and they're excited about its various applications in a wide variety of courses ranging through Geography, Environmental Science, Biology, Geology and Physics as well as its demonstration value with students before and after fieldwork.

Now, as the first of a series of hands-on, interactive demonstration models (to include GROUND WATERWAY and MARSH WORKS), Bellair Geotechnologies of Toronto is bringing STREAMLAB to the scientific and educational community. For more information on this new teaching tool, see their advertisement on the following page.

For a Fish Eye View of Rivers and Streams

The **STREAMLAB** Kit includes:

Flume and Channel Inserts
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Submersible Pump
Inverting Mirror
Carrying Case

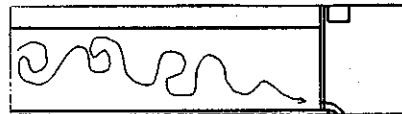
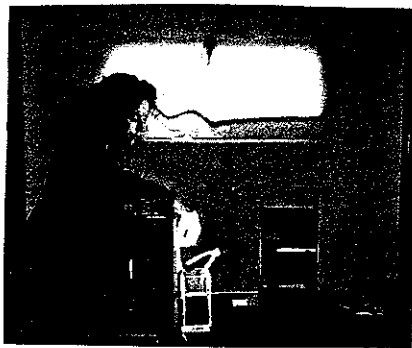


STREAMLAB

A Demonstration and Interactive Model
For Student Use and Classroom Projection

With the use of dye and
your overhead projector
STREAMLAB helps explain:

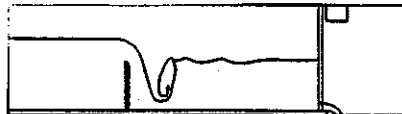
The Food Chain
Fish Habitat
Benthic Organisms
Stream Rehabilitation
Hydraulic Properties



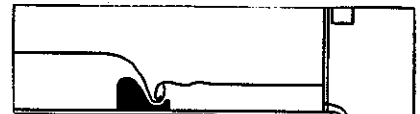
Slow turbulent flow
Rapid turbulent flow
Laminar flow



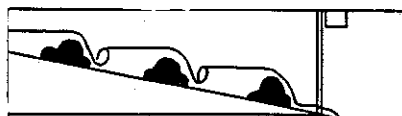
Critical depth
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Parabolic waterfall
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Trails and Greenways: Alternatives to 'Carmageddon'

David T. Brown

I learned my colours looking at rows of finned, multihued Buicks, DeSotos, and Mercurys,

My training as a field biologist and ecologist brought the impacts of the automobile into sharp contrast with the natural environments I studied and inhabited.

PATHWAYS

22

I have been looking at the world through the windshield of an automobile for a long time now. It was almost twenty years ago that I experienced that quintessential North American rite of passage: getting my driver's license. Prior to that landmark event, I had been thoroughly immersed in car culture: I played with Corgi cars, Tonka trucks, Hot Wheels, and plastic model auto kits. I remember the glitz and excitement of the first auto show I attended, at age nine, and can clearly recollect the exhilaration of speeding down a hill in a homemade soapbox derby car. My inculcation into car culture began at an early age indeed - Dad tells me that one of our favourite games, as he pushed me around our north end Montreal neighbourhood in the stroller, was to identify the cars parked along the roadside. I learned my colours looking at rows of finned, multihued Buicks, DeSotos, and Mercurys; one of my first multisyllabic words was probably 'Chevrolet'.

A move at age five to suburbia further entrenched my acceptance of automobiles - and their infrastructure - as a fact of life. Obeisance to the automobile, be it through moving nets when playing road hockey, yielding the right of way when riding on a bicycle, or dodging slush and gravel sprays as a pedestrian, became an unquestioned reflex. Caught up in the future promise and excitement of motorized mobility, I was slow to recognize the effects that the automobile had wrought on the environment, or to fully appreciate the enormous impact it was having on the shape of our settlements... and our psyches. With this auto-centric world view, it made perfect sense that the roads would be cleared before the sidewalks in winter, and that forests and farmland should give way to suburban sprawl and paved roadways.

It was only as a young adult that a glimmering awareness of the disadvantages of automobiles began to form in my mind. The appealing

fantasies of freedom and rides through the countryside were supplanted by the appalling realities of congestion and traffic gridlock on ugly suburban thoroughfares. I began to notice the human-scale integrity of older neighbourhoods being prostituted to the demands of increased parking and faster traffic flow. My training as a field biologist and ecologist brought the impacts of the automobile into sharp contrast with the natural environments I studied and inhabited. I was late to realize what others had been saying for decades - that the car has literally disconnected us from our surroundings, urban or rural, by putting us in a closed metal container with four wheels, and that the effects have been profound.

The American forester and planner Benton MacKay recognized the repercussions of this disconnection in the 1930's. He wrote of the importance of three essential types of landscapes - city, country, and wilderness - and maintained that our lives are diminished when our connections with any of these 'elemental environments' is severed. During the same era, Aldo Leopold bemoaned our misguided application of power and technology for poorly planned, utilitarian, 'bread-and-butter' ends. 'Man cannot live by bread, or Fords, alone', he wrote. 'Are we too poor in purse or spirit to apply some of it to keep the land pleasant to see, and good to live in?'

In the 1950's, urban commentator Lewis Mumford wrote eloquently about the need for integrating open space and parkland into the fabric of a city, the interconnected 'interstitial tissue within the larger urban greenbelt'. The already limited green spaces in high density, intensively used urban areas are particularly prone to usurpment by the automobile. Roadside trees and grassy borders give way to additional traffic lanes; parks are sacrificed for parking lots; watercourses and linear parks become conduits of least resistance for high-speed traffic corridors. In *End of the Road: The World Car Crisis and*

How We Can Solve It, Wolfgang Zuckermann has succinctly summarized the negative effects of automobiles on human settlements:

'The car's contribution to such landscape deterioration is threefold: first, it is largely responsible for...allowing structures to be scattered about in no particular order with a sea of parked vehicles about them; secondly, and more surreptitiously, it isolates us and speeds us through these very same landscapes so that we lose our distaste for them and they bother us less; and finally, having created the nondescript landscape and having isolated us from it, the car then gives us the means to leave such an area behind and embark upon on a search for an unspoiled landscape eventually to be blighted in its turn'.

The ultimate result is frequently a sterile landscape of concrete and asphalt, devoid of those elemental natural features that make human settlements hospitable and pleasant places in which to live and work. By granting unquestioned supremacy to the unimpeded movement of automobiles, we have created impediments to the movement of pedestrians and cyclists, increased noise and pollution levels, eroded natural values, undermined the aesthetic integrity of older neighbourhoods, and cast a blight on the landscape: the 'individual hideousness and collective haphazardness' that MacKay used to describe the 'slum of commerce'.

I'm not a Luddite, or a rolled-oats-and-granola environmental radical. I own a car, and I'm amazed at the fascination and appeal they hold for so many people, myself included. But I also recognize the enormous environmental costs that have been incurred as a result of our love affair with the car - costs too numerous to list here, extending from atmospheric pollution and extravagant resource consumption to the degradation of city and countryside. It's clear that a fundamental rethinking of our relationship with the automobile is in order.

The influence of cars on urban form is particularly noticeable. One needn't wander too far from home to experience the negative effects of our preoccupation with cars: any postwar suburban subdivision or shopping mall is a

testament to auto-based planning at the expense of pedestrians, cyclists, and public transit. In virtually every municipality, a battle is constantly being waged between the maintenance of traditional neighbourhood values and the traffic engineer's desire for uninterrupted peak-flow movement of autos.

Sadly, examples of the conflict between ecological values and automotive expediency are all too easy to find. If you ever visit St. Catharines, Ontario, by bus or automobile, chances are you will arrive via highway 406, a section of which is built in the valley of Twelve Mile Creek. Establishing a major high-speed thoroughfare along an historically important urban watercourse has clearly done little to complement the environmentally significant, once aesthetically pleasing creek valley. The fact that human activities had already substantially modified the watercourse was scant justification for continuing the car-driven developmental onslaught.

What can we do to mitigate against our collective shortsightedness, to allow those elemental natural values to become reestablished in our towns and cities? The first front is, of course, vigilance against the sort of thoughtless autocentric development which has victimized so many of our towns and cities. This entails a fundamental reexamination of the shape and structure of our communities, and a questioning of our deeply-held notions about what constitutes a desirable human settlement and how we should move around in it. Another front is to foster the retention or reestablishment of diverse naturalistic elements in the city - forests, meadows, hedgerows, and watercourses which contribute to the ecological integrity of the region. A third front is to encourage the careful establishment of alternatives to automotive transportation infrastructure - public transit, bicycle routes, pedestrian pathways, walking trails, and so on - which reduce our reliance upon the car and allow us a variety of safe and convenient transportation options.

One of the most promising ways to combine the above goals and revitalize our communities is in the establishment of *greenways*. Greenways are

*Greenways
are linear
corridors of
publicly-accessible
land.*

Greenways encourage practical environmental conservation, promote biodiversity in towns and cities, and sensitize city dwellers to natural cycles.

linear corridors of publicly-accessible land which may: a) preserve or reestablish natural vegetation; b) link natural areas, open spaces, and parks; c) provide dispersal routes and habitat for wildlife; and d) contain paths and trails for walking, hiking, cycling, or other forms of non-motorized transportation.

Greenways range in concept from grass-bordered asphalt paths in urban areas, through elaborate naturalistic hiking trails like Ontario's 720 km long Bruce Trail, to completely natural areas devoid of regular human presence. They hold great promise for re-integrating natural areas that have become fragmented by roads, urban development, and agriculture. Though the scale and substance of greenways is quite variable, they all share the common goal of establishing linkages between the remaining natural areas and green spaces in our cities, towns, and countryside. They also represent exceptional opportunities for hands-on, experiential outdoor education, in all phases of acquisition, planning, development, maintenance, and use.

Urban greenways provide all sorts of advantages to city residents. They offer safe, alternative routes for non-motorized transportation. They promote exercise and activity, and provide recreational opportunities within the city. Greenways connect parks and open spaces, making it possible to move about town without having to compete with automobile traffic on busy thoroughfares.

Greenways encourage practical environmental conservation, promote biodiversity in towns and cities, and sensitize city dwellers to natural cycles. They provide links to the surrounding environment, built or natural, and allow for the integration of city, country and wilderness in a controlled manner. And for the 50 per cent of the North American population who cannot (or choose not) to own a car, they provide a liberating alternative to the frustrations of dodging city traffic. Imagine the peace of mind in knowing that you could walk or cycle virtually anywhere in the city, without having to dodge Dodges or hide from Hondas. Wouldn't it be nice to be able to go to the library, post office, or local mall, without having to move a tonne of motorized

metal along with you?

Establishing networks of well-integrated greenways and trails in urbanized areas will be a challenge, but not an insurmountable one. Though economic, political, and logistical obstacles exist, the 'raw material' for urban greenway networks are already in place in many towns and cities, waiting to be linked together. Starting points include existing informal paths and 'shortcuts', municipal parks, cemeteries, and open spaces, even sidewalks and roadside verges. With the cooperation of school boards, churches, government organizations, and corporate and private landowners, access can be provided to more green (or potentially green) spaces and linkages.

Some of these areas (schoolyards, for example) are conspicuously underutilized for a good portion of the year, and are noted for their lack of biological diversity. Initiatives like the Lincoln County Green Spaces Project in the Niagara peninsula of southern Ontario have gone a long way to restore ecologically barren, aesthetically boring schoolyards into diverse and vibrant naturalized areas within the urban fabric. By establishing vegetation and trails on interconnected bits and pieces of public and private land, a functional urban greenway network can be built up incrementally.

Ironically, new greenway and trail links can often be established by co-opting many of the features that were originally responsible for the fragmentation and degradation of natural areas: abandoned railway lines, canals, unused or underutilized municipal road allowances, utility rights-of-way, road shoulders, and so on. Though this approach is admittedly opportunistic and somewhat haphazard, these degraded areas are (sadly) often the last best hope for greenway establishment in our fragmented landscape.

Linear features like canals, abandoned railways and utility corridors are particularly promising: they often represent the only remaining contiguous strips of land that can be restored, revegetated, and used to reconnect green spaces. A prime goal of most greenways initiatives is to acquire entire linear corridors such as abandoned

railway lines as soon as they become available. If a private owner purchases a section of such a corridor and restricts access, its continuity is broken, and the value of the linkage becomes greatly diminished. Many such potential links exist in our towns and cities, and many more will become available with the ongoing abandonment of rail operations - but it requires a quick and concerted effort to acquire and consolidate them before they, too, are eroded in small increments by development pressures.

In addition to the myriad advantages of introducing nature into the city, greenways are promising on a larger scale as well. In the Niagara peninsula, where I live, we have an impressive legacy of existing trails and greenways that extend - albeit disconnectedly - throughout the region. The Niagara River Recreational Trail, the Bruce Trail, the Merritt Trail, the Twelve Trail, and a wide array of lesser-known trails and greenways have already been established; some pass directly through the urban areas or skirt the municipal boundaries on their way through the countryside. There is a groundswell of interest in connecting these disparate trail links into a unified and accessible whole, creating a region-wide greenway network which would contribute to the still-greater vision of a province-wide greenway system.

Interest is peaking in many areas. Local municipalities are actively exploring ways to link up green spaces within their municipal boundaries. Greenways initiatives are capturing the interest of the provincial Ministries of Natural Resources, Recreation and Tourism, and Transport. The recent Royal Commission on the Future of the Toronto Waterfront (the Crombie Commission) has come out strongly in favour of greenways concept, featuring greenways prominently in their plan for future waterfront development, and the Commission on Planning and Development Reform in Ontario (the Sewell Commission) noted the importance of retaining linear features like greenways in the provincial planning process. The Ministry of Transportation (Ontario) has provided a bit of additional impetus by announcing a revised provincial cycling policy, which recognizes cycling as a

legitimate means of transportation (!), and permits the allocation of a percentage of roadbuilding funds to paved-shoulder bike path development. Similar provincial policies to decriminalize walking are purportedly under consideration as well.

Partnerships for Protecting Linear Corridors

Fulfilling the vision of an ecologically appropriate and environmentally responsible integrated trail and greenway network requires some forum for communication and cooperation between stakeholders. To meet this need for the Niagara region, the Environmental Policy Institute at Brock University formed the *Niagara Greenways Network* in November of 1992. Envisioned as an organization devoted to cooperative planning and problem-solving for our emerging trail and greenway system, the *Network* allows participants to compare notes, pool resources, share information, and collectively define the pattern of pathways that will one day pervade the region.

The *Network* has recently completed the first phase of a mapping and inventory project, cataloguing all major existing and potential trails and greenways in the Region. Vitaly important partnerships are being forged amongst stakeholders in the greenways development process. Area municipalities, provincial and federal agencies, local interest groups, naturalist organizations, businesses, service clubs, and motivated private citizens are working together to solve the problems and deal with the often contentious issues which accompany trail and greenway development.

By working together, the acquisition costs of linear corridors can be shared amongst a number of stakeholders, and the corridors can be put to use in a variety of compatible ways. Regional sewer and water lines can coexist with provincial power lines and private-sector underground telecommunications linkages. These can be overlain by multiple-use recreational pathways which connect green spaces and serve as alterna-

The Network allows participants to compare notes, pool resources, share information, and collectively define the pattern of pathways that will one day pervade the region.

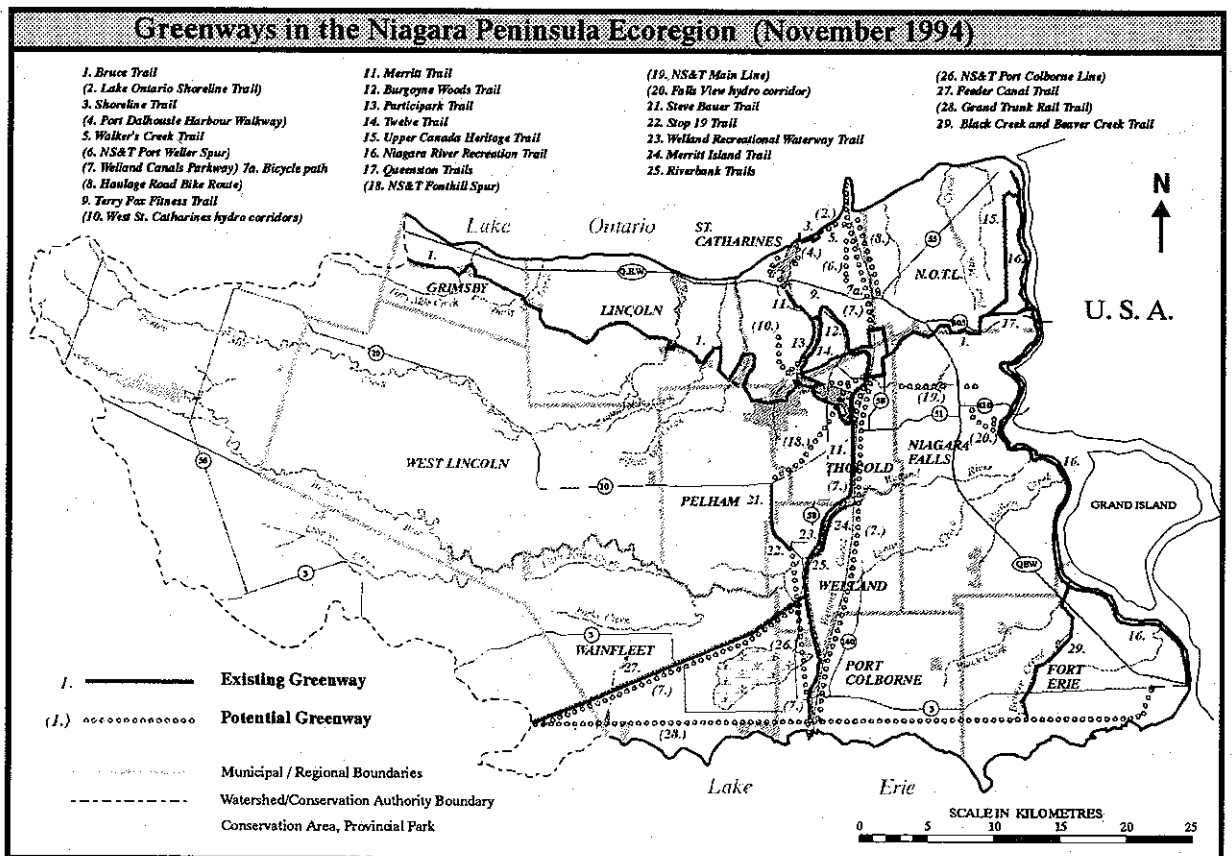
tive routes for non-motorized transportation. They can be managed as municipal parks and have routine maintenance performed by youth groups, service clubs, and community organizations. Naturalist clubs can develop interpretive programs for the plants and wildlife which inhabit these greenways, and fitness groups can use them for exercise and healthy living activities. In this manner, the corridor lands become public amenities, and their continuity is maintained. These are not pie-in-the-sky, Polyanna scenarios - they have been demonstrated in a wide range of regions all over the province.

Be they abandoned railways, utility corridors, canals, or reclaimed road allowances, yesterday's outdated infrastructure can live on as intact, multiple-use corridors and greenway linkages for today and tomorrow. With the support, vision, and involvement of motivated citizens and elected officials, our significant linear corridors can be acquired and protected for future generations.

Weaning ourselves away from the automobile is sure to be a lengthy, and at times painful, process. But enlightened planners, policymakers, and private citizens realize that one positive way to effect the change is to provide attractive alternatives. By all accounts, trails and greenways will play a prominent role in this transition.

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 Brock University
 St. Catharines, ON L2S 3A1

The preceding article is an edited and updated version of *Urban Greenways - Alternatives to Autogeddon*, an article which appeared in the Nov./Dec. issue of *The Downtowner*, a bi-monthly publication promoting the support of downtown St. Catharines, Ontario. Anita Skinner and *Downtowner Publications* (53 1/2 Henry Street, St. Catharines, Ontario L2R 5T7) are gratefully acknowledged.



Orienting Oneself to Research

Bob Henderson

Alternative Paradigms in Environmental Education Research. Edited by Rick Mrazek, The North American Association for Environmental Education. P.O. Box 400, Troy, Ohio 45373, USA. 1993

The Paradigm Dialog. Edited by Egon G. Guba, Sage Newbury Park, CA. 1990.

Experience, Research, Social Change: Methods from the Margins. Sandra Kirby and Kate McKenna. Toronto: Garamond Press, 1989.

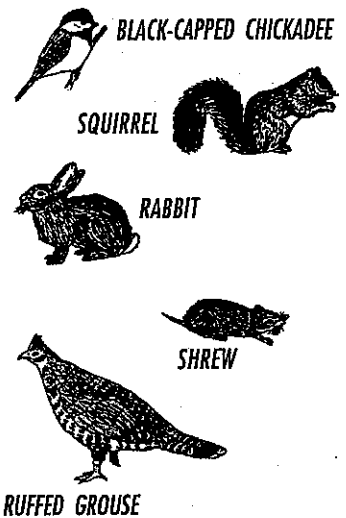
Events leading up to and occurring during the COEO conference in Algonquin suggest that there is an increasing interest in practitioners and researchers getting together for Outdoor Education research projects. The practitioner/researcher split is not necessarily the best or only way to co-ordinate research projects. The books to be reviewed here encourage people to be researchers of their own practice. Step one is to understand the orientations to research beyond the normalcy of quantification that is all too often the 'given' as the only research mode. The best way to approach research is to examine the grounding assumptions to the questions our inquiry generates; why we ask such questions and for whom? From such questioning, our particular research orientation will emerge naturally and will lead us to a methodological position. In that we all (all practitioners) have an orientation to the world, it follows that we all have a research orientation/tradition with its own methodological constructs. It may lead to quantitative data collection or it may not. This review will introduce an understanding of research traditions and research literature to support a broadening of what constitutes research and a practitioner's involvement in their own research.

There is a story told of three umpires, to which I will eventually add a fourth. The story goes that when asked, 'How do you call the

itches?' one responded with, 'I call them as they are,' another with, 'I call them as I see them,' and the third said, 'Nobody calls them until I do.' From this starting point, they had a lively debate. These orientations would put umpires one and two into a clash concerning assumptions about both what actually counts as knowledge and the authority of their knowledge. They would not realize that this is what they were debating. Likely their debate would drive each to the ultimate third option of demanding authority merely to fend off the other guy. Hence, 'Nobody calls them until I do.'

Let us briefly explore these orientations. 'I call them as they are!' This orientation to knowledge (epistemology) would have the umpire in control of THE truth, from a view that authority is a general law-driven quality. The umpire is thus able to make an objective, value-free inquiry into each call. There is an ABSOLUTISM to this umpire's position.

'I call them as I see them!' This epistemological tradition can be called RELATIVISM. This umpire is not so bent on the idealism of divine authority, but rather, views authority as situational and subjectively interpretive. Rather than a law-like knowledge that provides explanatory power of the object, this umpire uses his or her personal consciousness to size up the situation. Inquiry is not value-free but bound by time, place, and context. The two would not agree on how to make the calls and likely would differ on many other aspects concerning the function of living their lives. The absolutist who makes TRUTH statements believes he is looking, say, through a macro lens camera, rigorously adhering to the details. He would judge the relativist whose inquiry is bound by situational-interpretive facts as, say, looking hopelessly through a wide-angled, slightly out-of-focus camera. The relativist would see it differently, of course. This umpire would see the macro lens view as missing possible input and avoiding the fact that a camera can only capture



*We can now
connect these
knowledge-rooted
traditions to the
possible orientation
to research*

or 'call' A truth, not THE truth, and, therefore, being in control and being right is an illusion of sorts. It is a game after all. Certainly this umpire would seek the widest angle possible that does not distort the call making and then move forward in an imperfect world.

The third umpire is concerned mostly with procedural issues and demands authority to such a degree that one would be inclined to think that he has not sorted out where he stands amidst these traditions and, therefore, must *demand* control and respect. Given this, we can leave this umpire out of our thinking except to note that, 'Nobody calls them until I do,' is more a fall-back position, a defensive turn away from a grounded knowledge tradition of 'the' truth or 'a' truth. This umpire seeks control only. Often the other two umpires fall back to this third position when they get frustrated debating the merits of their respective approach with the other. Incompatibility drives them to rejection.

There is a fourth orientation which we can call the third epistemological tradition. This umpire might say (though do not expect to see this at the ball game), 'Let's get together and re-design the nature of the game so that no umpire is needed and no calls that put people 'out' are required.' This umpire assumes the game, indeed the world, is steeped in oppressive forces that cause people to unwittingly contribute to their own dissatisfactions in the world. However, collaboratively, people can get together to improve their situations. But for this enlightenment, they must be participants in their own experiments. The umpire can only facilitate and therefore must re-think her practice. A. Gramsci called this experimentation, a 'praxis of the present,' where thought and action, theory and practice work together to affect change. Now truth is an EVOLVING state and authority is found in relationship. To not miss the point, this notion of EVOLVING versus THE or A truth is a radically different view. Philosophically, this third position would be labelled existential. One is conscious of who she is becoming and the responsibility she must bear towards her existence in the world. The 'calls' of this umpire are openly value laden. In fact, this umpire seeks

to radically undermine the game itself in the hope of an emerging better game to be played by all. This umpire aspires to be a social activist, co-player, and is oriented from a DIALECTIC viewpoint. A dialectician is one who leaves nothing unquestioned to so provide a process of change in thought and the universe where a higher level of knowledge (TRUTH) and of existence (UNITY) is reached by means of the necessary opposition of contradictions.¹ This is also called a critical-reflective viewpoint. From this epistemological viewpoint, hidden assumptions about the game are revealed in an ongoing action plan of reform whereby participants themselves alter prescriptive limits and rules for a transformation of practice that improves their situation. The players have to wish to seek change for this to be a viable orientation. The umpire is likely out of a job unless the participants retain her services in some revised form.

Well, umpires are a lot like researchers. They have an area of expertise. They survey the scene and systematically go about their investigative work following an epistemological tradition. To be research, they must share their findings for public scrutiny. So they make decisions about the objects or subjects of their inquiry from within one of the three traditions stated in the story: 1) absolutism - THE truth - value free - objective; 2) relativism - A truth - values bound by time of place/context, and subjective, and finally; 3) dialectic - EVOLVING truth - values asserted prominently - dialectical communication.

We can now connect these knowledge-rooted traditions to the possible orientation to research. In the research language, absolutism leads to positivistic inquiry that is rigorously bound by sophisticated experimental design or measurement tools from a hypothetical - deductive method, in other words, statistical analysis, theory testing experimentation. Relativism leads to situational-interpretive or naturalistic inquiry which includes phenomenology, ethnographic/narrative, and socio-historical. Participant observations, surveys, and interviews are common. Word stats replace number stats in the main and inductive theory building which

involves emergent formulations are most common. The former is most often called quantitative research, while the latter is qualitative. The third orientation is most readily thought of as post-positivistic (whereby methodology is free from prescribed rules and boundaries and relevance is stressed for marginalized groups) and is a dialectic tradition leading to critical social theory. Critical analysis done by participants and reflective practice of the researcher is achieved in dialogue whose validity is measured in action taken to improve one's situation in the world. Action research (participatory research) and emancipatory research are common labels used to describe this critical-reflective stance to the world. Action research is a term to describe a group (usually a professional group, i.e. teachers), getting together with the intent to understand and then improve the nature of their work against oppositional forces. Emancipatory research involves a facilitator (enabler) coming into the group from outside to aid in, but first help define, the group's struggles with dismissive forces. Feminist theory is also strongly grounded within this tradition. The separating factor of the critical orientation compared to the others is that the research is FOR the participant, more than it is ABOUT the participant. It is, by nature, an activist social change advocacy position. Not surprisingly, it is the orientation that is least common and least understood. It is a post-structural or post-modern view, which is to say, that it challenges western intellectual schemes acknowledging that 'authority' will always pretend to be objective and for the common good, which it is not. The critical perspective is particularly awkward to translate from theory to practice. Practices against the grain of the dominant cultural stance be it in ecology or social/political theory demands an attention to listening and a creation of space for revelation that is not easy to achieve. And yet, practitioners tend to dabble naturally within this dialogue-driven critical-reflective framework. This is perhaps largely due to the disorientation of the out-of-doors, beyond the four walls setting, in which outdoor educators work.

We need an example for perspective:

X = the evaluation criteria possibilities of a canoe trip as part of the school curriculum.

The positivist quantitative researcher will study, 'what is X?' They will 'call it like it is.' Therefore, they will test different examples of X on the students, teachers, parents or administrators to determine which works best perhaps or they will test a variety of other factors, such as connecting the evaluation of other courses to what actually happens on the trip. The experimental approach will likely have to consider only one of the identifiable factors.

The situational-interpretive qualitative researcher would 'call it the way I see it' and, therefore, will inquire into 'what does X mean' or 'why X?' for a certain time, place or context: In essence, 'what is the meaning of X?'

Going back to our original umpire story, the 'former' third umpire who says, 'nobody calls them until I do,' would say, 'unless you study X the way I do you have nothing of real value.' Hence the incompatibility of the quantitative and qualitative designs tend to be reinforced. (There is a bit of this third umpire in all of us perhaps.) This question of compatibility of orientations is a common debate within research literature. Our final umpire of the third tradition, the critical social theory approach would say, 'can we seek freedom from X (evaluation)?', 'how can we change to better X?' or 'change X to better ourselves?'

The critical point, for the people interested in deciding what to do about the awkwardness of evaluations as required for curriculum, is that we as individuals must decide how we wish to orient ourselves to the world, or, in other words, how we want to affect the world and then we can choose our strategies. In short, what is the best way to look at X. Certainly, all three can be useful and are needed and should ideally complement each other.

The three books listed at the beginning of this text deal with all of the issues presented within the umpire orientations. Each book centres on the theorist/researcher as an object to be understood by their own theories (epistemo-



RUFFED GROUSE



MOUSE

'perception
without conception
is blind' and
'conception
without perception
is empty.'

logical traditions) and research practice. This is an important starting point for any practitioner seeking to research, 'to search or investigate again' (*Webster's Dictionary*). Kirby and McKenna speak for practitioners who falsely see a separation of practitioner and researcher roles when they write their definition of research in broad terms as, 'gathering and making sense of information and acting responsibly with the information.' They add that they wish to reclaim the understanding that research is something we all do in our everyday lives. Their book, *Experience, Research, Social Change: Methods from the Margins*, is rooted in the situational-interpretive and critical social theory, dialectic orientations with a strong emphasis on qualitative design methods. Of the three books cited, theirs is the only 'how-to research guide,' but positivistic-minded researchers beware, this book might confuse your ability to 'call it like it is.' The book is succinctly divided into chapters concerning gathering/organizing and understanding data; presenting analysis and learning research skills such as observing, recording, and participating. The book makes a start towards the dialectic in that participants are engaged in research WITH the researchers in certain cases cited.

The Paradigm Dialog edited by Egon G. Guba will serve a most serious launch into the study of the researcher as an object of study. The book evolves from a conference gathering of people who write 'about' research and thus, research about research in a socio-historical philosophical mode. It will absorb you into the research language of the research paradigm debate. Constructivist theory, hermeneutics, ontology, and the many words used here, epistemology, postpositivism, all are examined thoroughly. For the practitioner as teacher and outdoor educator, this is a curious world, but one that when de-mystified (I am hoping to have done this), opens the door to the rich possibilities of conducting research when otherwise this realm had been restrictively defined and in the control of a few. Certainly, *The Paradigm Dialog* is worth surveying in conjunction with the other titles.

Finally, *Alternative Paradigms in Environmental Education Research*, edited by Rick Mrazek and produced by The North American Association of Environmental Education, is a useful guide to the three orientations to research that emerge from the epistemological traditions of absolutism, relativism, and the dialectic. Warning, other labels are often used between different authors. You will also see the above three also labelled as: technical, with interest in acting on the world; communication, governed by a practical interest in understanding others, and; freedom, governed by an emancipatory interest. These additions are presented merely to highlight the wealth of labelling about research/epistemology.

This book is also the result of a conference gathering in the main. There are also reprints from NAEE's publication, *The Environmental Communicator*. The conference format means we have experts talking to experts about issues of research for environmental education. As a result, the entry level practitioner is left to flounder a bit. The information over the 300-plus pages, however, is excellent but not as practitioner-friendly as it might be. It is rewarding, however, and will teach the message, for both so-called practitioners and researchers alike, that as they state, 'perception without conception is blind' and 'conception without perception is empty.'

This is a plea that exists in all three books to move beyond the practitioner/theorist-researcher split for a genuine embodied practitioner researcher. The assumption made here is that understanding the full programme of orientations will open doors for the research-want-to-be practitioners. *Alternative Paradigms* in over 100 pages, 'confronts' the issue of three research orientations within three chapters. There is lots of overlap between the content of these lengthy chapters but there are important distinctions made. The following five chapters are shorter perspective chapters concerning such topics as; the political interests in a behavioural positivistic environment education (EE) research, a deterministic character seeking control, shaping and constraining; communicating EE research for greater application; a critical

phenomenology for change; narrative inquiry, journaling, and the recording of critical incidence as personal storytelling to explore the way individuals and communities construct their experience in the world.

Another segment of the *Alternative Paradigms* (the notion of 'alternative' is itself a contested idea) concerns examples of EE research. Action research is a main highlight in that it is the featured example of two of five chapters. One study concerning 'goals and conflicts in University-based EE centres' uses all three orientations (paradigms) suggesting that incompatibility of orientations is more a problem of the researcher not the orientation. By the time the reader arrives to these chapters, they are more likely to be reading for the research approach than the content. This is a healthy state. For the reader by this point has learned that all researchers and research begs certain questions about knowledge, such as, what is knowledge for, who does it serve, and how best to get it.

The long preamble by way of the umpire scenario is needed because while wishing to introduce these three books, nowhere within their pages is there a succinct clear distinction of the three research orientations as grounded in philosophical ways of thinking about the authority of knowledge. If we can all be umpires, we can all be researchers of our practice. We can make our own calls. Many of us already are, we just have not realized it yet.

BOB HENDERSON

I would like to acknowledge the collaborative efforts of colleagues Andrea Mann, Nancy Bouchier and Sue Inglis in my sorting out of research questions.

¹ Peter A. Angeles, *Dictionary of Philosophy*. New York: Barnes and Noble Books, 1981.

all researchers and research begs certain questions about knowledge, such as, what is knowledge for, who does it serve, and how best to get it.

WILDERNESS ADVENTURES IN TEMAGAMI WITH SMOOTHWATER OUTFITTERS

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What do your students hope to achieve? What are the aims of the institution that employs you? Are they different from your own?

Future courses will focus on human and environmental issues that resonate both within Temagami and farther afield

Smoothwater Outfitters has long been a respected provisioner of information and equipment to canoeists, hikers, and skiers heading for the wilds of Temagami. Increasingly, however, people are looking for more than a vacation in the bush. They are eager to experience the wilderness in new ways, and to learn about native culture and northern traditions. Smoothwater is responding to this change by expanding its programme of workshops and courses under the direction of its new proprietors, Francis Boyes and his wife Caryn Colman.

Founded in the early 1980s, Smoothwater quickly prospered as a haven for wilderness travelers of all stripes. Its base on James Lake served as the local headquarters for activists who, in 1989, blockaded the Red Squirrel Road to prevent the logging of old growth forest.

Smoothwater drifted in the early 1990s, lacking the guidance of a committed owner/operator. The Temagami region suffered too. Its traditional economy based on unsustainable mining and logging lay battered, while a nascent economy based on sustainable wilderness recreation struggled to gain acceptance.

During this time Caryn and Francis were living in Toronto, running a small advertising communications firm. They were eager to leave the city and learned that Smoothwater was for sale. After much soul searching they took the plunge and assumed Smoothwater's helm in 1994.

With much needed dedication and energy, they are diversifying Smoothwater's activities. Their goal is to preserve and enhance Smoothwater's reputation as a quality outfitter, and to establish it as a centre for outdoor education in the Temagami region. It will be their contribution towards a strong recreation based economy in Temagami that celebrates and protects the wilderness.

To accomplish this goal, they will draw upon more than their marketing skills. Francis is a life-long canoeist and former tripping guide who has paddled widely in Canada. He holds his ORCA Canoe Tripping Instructor's certificate and is always eager to share his knowledge and love of canoeing with those who seek the

grandeur and solitude of the Temagami wilderness. Caryn is a professional artist who obtained her BFA at the Nova Scotia College of Art and Design. She has spent many summers in the Bruce Peninsula teaching painting to those seeking a finer appreciation of the Ontario landscape.

Their efforts to update Smoothwater's activities began with last summer's workshops in watercolour painting and photography that focused on the Temagami landscape. While not revolutionary, these courses enjoyed immediate success. In the fall, Smoothwater hosted a Ying-Yang personal growth workshop, which further underlined the need for a diversified programme within a wilderness context.

This year, Smoothwater is offering additional art and photography workshops led by eminent Canadian artists, plus courses in native crafts led by members of the Teme-Augama Anishnabai First Nation. Also offered are ORCA Canoe Tripping Instructor courses and combined St. John's First Aid/CPR courses. In the planning stage is a Ministry of Natural Resources course for outdoor educators.

And that is just for 1995. Future courses will focus on human and environmental issues that resonate both within Temagami and farther afield. Also planned are new recreational activities to allow more people to get out and experience the Temagami wilderness.

It is an exciting time at Smoothwater, as Caryn and Francis change gears for the challenges ahead.

Francis Boyes and Caryn Colman operate Smoothwater Outfitters year round from its location on James Lake, 14 km north of the town of Temagami.

Response to Retrospective Questionnaire

by Clarke Birchard

Number 1 - The Inspiration Question

This is a big question. It has many parts and does not indicate a time in one's life or career when the inspiration was to have taken place. So here are some inspirational influences that occurred at different times for me.

a) Initial inspiration probably came from an upbringing on a Victoria County farm at a time when 'life was a camping trip.' That is, we seemed to live outdoors and went in to eat, sleep, or if the weather was bad. Today, life seems to go on inside buildings and 'going out' is a special event.

b) Later inspiration came from a high school science teacher in Lindsay who made education relevant to the real world and did a lot of the things we now call OE as a regular part of our on-going programme and without a lot of fanfare, press coverage, etc. We even went to school on Saturdays sometimes to go on field trips, plant trees, or extract honey!!

c) As a beginning teacher, I carried out a few out-of-school experiences with my classes that bordered on/were inspiring for me; I'm not sure how the students felt. More profound for me was the shocking realization in my early years as a rotary science teacher that the kids were learning more (and liked it better) in science clubs and outings before and after school, at noon hours and on Saturday mornings, than they were in regular classes. Thus began my fascination with, and gradual move toward, experience-based learning.

d) When I became a teacher-educator, I was inspired by the impact that a three week field-studies camp at the end of the year had on student teachers who were otherwise somewhat apathetic, restless, and bored in college classes and impatient to be 'out there' in the schools.

e) As a Supervisor/Consultant in charge of the development of the facilities and programme

at an OE Centre, I was inspired almost every day by teachers, kids, volunteers and others having relevant, rich, and rewarding learning experiences in the outdoors.

f) One of the unusual and special features of OE, and therefore, inspirational, is that it has largely been a grassroots movement that has come about with some encouragement and support from above but without the 'studies,' commissions, legislation, regulations or policy directives that usually accompany or precede significant new directions in education. Compare the evolution of OE with the 'spontaneous creation' of the Common Curriculum, for example.

g) And finally, the most inspiring influences of all have been OE and EE colleagues and COEO involvement. See the answer to the next question.

2. The Significant Experience Question

In the early years, when OE and COEO were getting going, we were a relatively small group of people dedicated both personally and professionally to creating a better form of education, a better world, and a better future for people. Weren't the sixties and early seventies an exciting (and maybe a bit overly idealistic) time? But we believed that we could do it! So, probably the most inspiring experiences were networking with others doing similar things in other places and all of us seeing growth, progress in and acceptance of the new ground we were breaking. To this day, I have found the people who are involved in outdoor and environmental education to truly believe in the importance of what they are doing and to live their commitment in both their professional and personal lives. WHAT INSPIRING MODELS YOU ARE!!!!

3. The Crystal Ball Question

Unfortunately, the crystal ball is a bit clouded by economic restraints and cutbacks in OE budgets, staffs and programs right now. Given the current climate, the priorities probably have to be 'damage control' and hanging on to as much as possible of what has been accomplished over 25 years.

COEO as an organization must reexamine its mandate, consolidate its efforts and, for a time at least, provide fewer services to a smaller clientele. The Board of Directors must not be depressed by a drop in membership to 300. There was a time not so long ago when growth to a membership of that size was considered a great achievement.

4. The Book Questions

There are so many!! I own about 200 and would hate to part with about 100 of them. The best book(s) at any time have been the one(s) that met a need or provided inspiration at the time. So they have all had their turns.

There should be a book written on the history/development of Outdoor Education in Ontario. In 1969 and 1972 there were two booklets published by the Canadian Education Association entitled 'Outdoor Education: A Survey of Activity in Canada,' and 'Outdoor Education in Canada, 1972' (John Passmore). I think they were influential in supporting the OE developments in Ontario at the time by showing administrators, board members and others what some of the possibilities were and by providing reassurance that OE was a widespread curriculum frontier. A current survey of OE in Ontario would be at the very least, a compilation of what has been achieved by 1994 and may be of value in the future for rebuilding eroded programs.

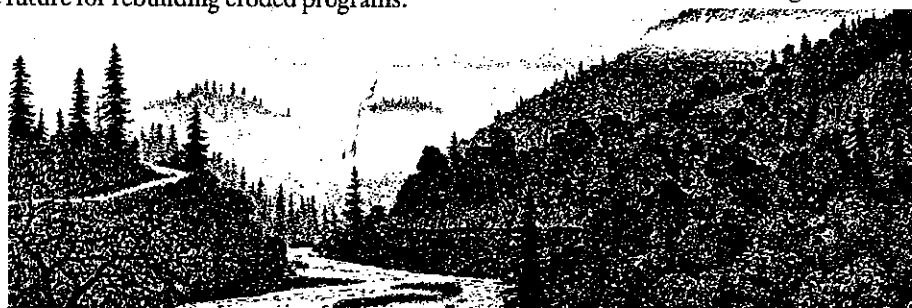
5. The Vision Question

This question seeks to be similar to the crystal ball question, so my answer is a continuation from number 3 above. I have taken 'we' in the question to be the Council of Outdoor Educators of Ontario as an organization.

Through the professional development efforts of the Faculties of Education, COEO, Bark Lake Leadership Camp, The Frost Centre, Conservation Authorities, Parks, School Boards and others, a great deal of excellent OE is now provided by classroom teachers on a day-by-day basis as part of their on-going curricula. However, as for COEO, there will always be a need for mechanisms for sharing ideas, commitment, inspiration, and mutual support, and for advocacy with other individuals and groups. This is especially important for full-time outdoor Educators since COEO provides their main means for 'networking.'

I see the big challenge for COEO as coming up with a renewed 'vision' for the near future and perhaps setting aside some of the services and functions that may have been achieved to a large degree or which are not as relevant as they were in an earlier time. It may be necessary to narrow the focus for a time.

CLARKE BIRCHARD is somewhat of an outdoor ed fixture in Ontario. A founding member of COEO, he remains active to this day, being a past president and current Editorial Board member. Though he retired in 1994 after a long successful science and outdoor ed career with the Bruce County Board of Education, he remains active in the Environmental Science courses offered by Nipissing College (at least when he's not tending his bees in Chesley!)



The Teachable Moment

I wonder...to wonder, versus to have doubt and curiosity about, to want to know

I wonder...what are the factors which make up a teachable moment?

I wonder...why isn't it 'learnable' moment? After all, for whom does this 'magic point in time' exist, the learner or the teacher?

I wonder...can a learnable moment be created? or is a learnable moment something which 'just happens'?

I wonder...can a learnable moment be the result of action on the part of the teacher...or only as a result of action on the part of the learner?

Assuming it is possible, I wonder...does the teacher have the right to create a learnable moment? If that is possible, I wonder...does the teacher have the right to create learnable moments according to a plan...and could that plan be called...'curriculum'?

I wonder...could a 'teacher' be defined as one who recognizes and uses a 'teachable moment'? oops, 'learnable moment'?

I wonder...could a 'learner' be defined as one who creates a learnable moment.

I wonder...when a learnable moment slips by, who screwed up?

I wonder...when a learnable moment slips by, was it truly a learnable moment?

I wonder...is a 'learnable moment' necessary for learning to occur?

I wonder...what other things can the teacher do when a 'learnable moment' is forced?

Like: not having to oversee the learners' behaviour: after all, they are too interested in getting the information and the skills.

Like: using time, energy and attention helping the learners discover information rather than presenting it.

Like: helping the learners apply and maybe understand the information differently.

I wonder...is this 'the thing' which makes teaching...or learning...or Education, 'experiential'?

I wonder...if these questions have created a 'learnable moment'?...for whom?...me...or you?...or both?

KEITH V. KING

Editor's Note:

Keith invites readers to continue this dialogue along with that of his previous article, 'Abusing the Teachable Moment,' in Pathways. He can be reached at HCR 73, Box 779, Alton Bay, NH. 03810. Both the current submission, 'The Teachable Moment,' 'Abusing the Teachable Moment,' and the following interview between Keith King and Rich McHugh, first appeared in the Association of Experiential Educators Newsletter in 1994.

Rich: What do you want people to know about you?

Keith: That I try to be a people teacher, not a school teacher. Schools don't need to be taught. Schools don't need to change the way that people do. People change from the inside and schools don't or can't. Schools have to change from the outside.

Rich: What is the difference between good teaching and teaching experientially?

Keith: Every teacher needs to recognize how they are teaching, not what they are teaching. All learning is based upon experience. What is learned by the learner is using their experience as a base. The teacher may not know what that base is, so they can't always know what they [the students] are learning. But all good teaching is experiential.

Rich: What is your aim as a teacher?

Keith: My aim in teaching is to help people form a philosophy. I believe that every moment can be learnable, but it must be allowed to happen. My goal as a teacher is to find out where people are at this moment, and recognize how to use this magic. That is good teaching!

RICH McHUGH

Pathways

THE ONTARIO JOURNAL OF OUTDOOR EDUCATION

Conventions:

(based on *The Globe and Mail Style Book* and *Editing Canadian English*)

... combining distinctive features of Canadian style and modern typographic approaches.

- programme, colour, Centre, etc., (essentially British spellings)
- 'organize', etc., (using the North American 'z' instead of the British 's')
- 'co-operate', etc., (using the hyphen to separate the 'co-' syllable)
- Put punctuation outside final quotes (in contrast to American usage).
- etc., / i.e., / ... / pg6 / 7 p.m. (i.e., formal typographic style)
- Use "curly (smart) quotes".
- Use italics instead of underlining. Do not use ALL-CAPS.
- Use em-dashes – with spaces – instead of double hyphens.
- Use only one space after periods, commas, exclamation points, question marks, quotation marks - any punctuation that separates two sentences.
- Use metric units, rounding off where the context indicates a generalized reference.

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DOS / Windows: WordPerfect / Word / on 3.5" or 5" floppies

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- In general, use minimal formatting, as it will need to be re-formatted at the layout stage anyway.
- Everything should be spell-checked with a Canadian dictionary.
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- Artwork should be clean and crisp line-art or standard computer format provided on disk (PICT or 300dpi paint or EPS or TIFF for Mac format; EPS or TIFF for DOS).

References:

The Globe and Mail Style Book

The Elements of Style, Strunk and White

Webster's New World Guide to Punctuation

The Mac Is Not A Typewriter, (The PC Is Not A Typewriter), Robin Williams, PeachPit Press,
Editing Canadian English, Freelance Editors' Association of Canada