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Holistic Education Review aims to stimulate discussion and application of all person-centered educational ideas and methods. Articles explore how education can encourage the fullest possible development of human potentials and planetary consciousness. We believe that human fulfillment, global cooperation and ecological responsibility should be the primary goals of education, and we will inquire into the historical, social, and philosophical issues that have prevented them from so becoming.

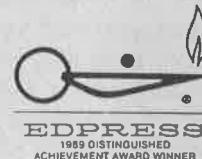
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EDITORIAL

It's Time to Work Together

Education in the modern world is ready to change. As the industrial age winds down, educators in most developed nations are searching for new approaches, new models, new methods to address the educational needs of a new era. But what kinds of new models will they adopt? As I see it, public schooling is going to follow one of two basic paths in the coming global/information age: Either it is merely going to adapt the nationalistic and economic goals of today's education to new conditions—or it is going to recognize the needs of human development and, for the first time in history, offer an education that nurtures our highest possibilities. The first choice is the path of *A Nation At Risk* and all of the other hysterical warnings about "competitiveness" and "cultural literacy." The second choice is the holistic path.

It is obvious which path will be chosen by the power elite in education. Political leaders, national and state education departments, universities, corporate foundations, the testing and textbook industries, and (to a lesser extent, perhaps) the major teachers' organizations are inherently bound to—and derive their power from—the hierarchical, technological, competitive social order of the industrial age. They may adopt a few selected techniques—schools of choice, "right-brain" methods, maybe even whole language approaches—but the basic purpose of education will remain as it has been for two centuries: to produce industrious, obedient workers and citizens, to keep the nation "strong" by increasing its economic growth and technological superiority, and to train people to be contented, passive consumers and voters.

The holistic path may never be chosen by the power elite. The holistic path is entirely a post-industrial paradigm that will blossom fully only when the industrial

world view has become history. The question is how soon this cultural transformation will occur. We may go through several decades of transition, during which educators will desperately attempt to maintain the economic and technological race amid increasingly difficult conditions. Or, we who recognize that the new global era signals the end of industrialism just might be able to nudge the cultural transformation along a bit sooner; *but we can only accomplish this if we begin to work together.* I believe that the time to begin this work has arrived.

There are many holistic movements in education today, and each, in its own sphere, is bubbling, fermenting, growing, thriving. The Montessori and Waldorf school movements cannot train enough teachers to keep up with the demand. The progressive schools have, after thirty years of obscurity, begun a new phase of national organizing. Humanistic education, based on the "human potential movement" in psychology, has spawned a hugely successful campaign for self-esteem programs in education. Alternative schools, both public and private, are in great demand. (No, I do not mean dropout prevention programs for "at-risk" youth, but truly democratic and humane forms of education for all youth.)

There are exciting programs in experiential education: earth education, peace and global education, conflict resolution and mediation, cooperative learning, programs based on recent brain and learning research, and a growing number of schools based on the

teachings of various spiritual traditions. And beyond all of this, the home-schooling movement is spreading like wildfire; although the values and motivations of home-schooling parents vary widely (many are not at all holistic), the movement is a highly significant cultural phenomenon, a further indication of the breakdown of industrial-age institutions and their power over individuals, families, and communities.

I suggest that these many diverse movements, when taken together, represent a massive challenge to industrial-age models of education. Indeed, that is the fundamental premise of this journal: What unites these various groups is far more important than what sets them apart. I believe the time has come for holistic educators to recognize the deep, underlying cultural significance of their work. I call upon educators in each of these movements to reach out, beyond the bounds of their particular groups, to offer a new path for education.

Let's imagine what education will look like in the post-industrial age. Will all schools be Montessori schools? Will all be Waldorf schools? Will all be progressive schools? No, of course not—in a decentralized, community-based culture we will have a wonderful diversity of educational models. This is why I urge holistic educators to look beyond the boundaries of any one movement. Each of us, no matter what our particular training, orientation, or special interests, is part of something larger. Let us honor that vision. Let us share our insights with one another and work together to bring about that vision of a humane, nurturing culture.

What does this mean, practically? It does not mean that we must give up or water down our methods. But it does mean that we should start thinking in terms of

larger issues than the methods alone. For example, in April of this year, *Newsweek* magazine ran a cover story on "How Kids Learn," which was the closest thing to an endorsement of holistic methods that I have read to date in the mainstream press. (Methods, anyway; I doubt the reporters understood the holistic paradigm as an underlying world view.) A couple of weeks later, a response from a major Montessori organization appeared in the Letters column. The author pointed out that Maria Montessori, eighty years ago, had recognized the principles that today's early childhood educators seem to be discovering with so much fanfare. While this is true, loyalty to one educational alternative does little to promote a fundamental re-examination of educational principles. A reader of this letter could easily have concluded that the only alternative to mainstream education is the Montessori movement. Furthermore, the letter failed to challenge *Newsweek's* im-

plication that child-centered learning is only good for little kids and, in fact, helps prepare them for "real" learning when they get older.

I do not mean to single out Montessori people. Last year, I ruffled some feathers in the Waldorf movement when I questioned a Waldorf-oriented book for ignoring complementary approaches. It seems that every group is rather preoccupied with its own methods, jargon, history, and personalities—and has little appreciation for its allies or for the larger cultural vision that they share. I have repeatedly urged readers of *Holistic Education Review* to respond to our articles—to begin a dialogue rather than a series of monologues, in order to strengthen our common ideals and unifying vision. But so far, we have not had much dialogue in this journal; we have had one article after another that state, in effect, "Here is *our* method and why it's the best one available." Indeed, most of these methods are

remarkable and deserve a wider hearing. But this journal is not fulfilling its mission if it does not receive genuine responses that thrash out the larger educational and cultural issues involved.

The dialogue is up to you, readers of *Holistic Education Review*. Once again, I urge you to respond to what we publish. I encourage you to see your valuable work in one or another educational movement as part of a larger cultural transformation. Reach out to those who are your allies in this important quest and, at the very least, respond to this editorial. Let us explore all the ways in which we can work together. The stakes are high. We can let the politicians and corporations continue to use education for their own purposes, or we can introduce a truly life-affirming path to the way we educate the world's children. It is time to choose.

—Ron Miller

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EDITORIAL

Optimistic

I am excited and optimistic as never before about the change that is in the air for American schools. On May 19, 1989, U.S. Secretary of Education Lauro F. Cavazos affirmed my optimism with the statement: "No child, no matter his or her circumstances, should be compelled to attend a failing school, or one that does not meet their academic needs."¹

Educational reform advocates were active during the 1970s, but their suggestions were not heard or heeded, for the most part.² Recommendations included: (a) dispersing youth into the world of work for earlier quality experiences; (b) employing individualized learning programs and flexible schedules to develop and respond to individual students' talents and needs; (c) restructuring larger schools into smaller schools or units that incorporate alternative programs; (d) modernizing and updating traditional curricula with a career, aesthetic, media, and global education; and (e) effecting changes in governance systems so that students can be more active in the decision-making processes and policy development for their schools.

Only Rip Van Winkle could have missed the barrage of educational reform studies dominating the educational literature and popular press of the 1980s. But attempts to patch or repair the "one best system" have failed predictably because schools are complex organizations with many parts. In part, top-down technical decisions from central-office administrators largely removed from classroom settings failed to enhance the development of either the effective or academic domains of the children attending school.

Well! Finally we have arrived at the point where we *must* rethink and restructure schools. There is no turning back. Sadly we have arrived at this point for the wrong reasons. Economically, America is losing its competitive edge, and it is this situation that has brought so much attention to the crisis in American education. More important, the loss of human potential is equally devastating, but there is hope that this situation will be remedied on a larger scale.

Progressive and alternative schools have been "on task" (to use the current jargon), rethinking and changing schools, for quite some time. They have learned lessons from both theory and practice. One model does not work for all schools. Plans and goals must be made at the individual school-building level. Goals are kept simple, and schools are wise to begin with only one goal and build as they can manage. The interests, needs, talents, and intentions of the individual child are central to the school philosophy. Students are prepared to become active citizens. That means they are involved in the governance of their school and are educational planners, too. Teachers reengage parents in decision-making processes and all aspects of the school rather than hold them at an arm's distance. Teachers are knowledgeable about "conflict" as one of the stages in group processing as they begin to dialogue and brainstorm about ways to reorganize their building. The list of lessons

learned by alternative and progressive educators is endless.

I invite our readers engaged in the change process to take advantage of the reading list included in *Holistic Education Review*. You will be back in school when you receive this issue, and I hope that you are involved in reorganizing, rethinking, and restructuring your school in some way. Read and discuss the approaches listed. Send us your suggestions about additions to our lists. The Fall 1990 issue will focus specifically on "Restructuring." Please take the time to describe your efforts and attempts, to share your triumphs and flops with our readers. I recognize your full calendars and level of commitment, but it is important that we hear from practitioners about the strategies and organizational components with which you experiment. The body of educational literature needs your contribution as well.³

—Mary Ellen Sweeney

Notes

1. Lauro F. Cavazos, "Restructuring American Education Through Choice," Address presented to the Education Press Association, National Press Club, Washington, D.C., May 19, 1989.
2. B. Frank Brown (Chairman), *The Reform of Secondary Education: A Report to the Public and the Profession*. National Commission on the Reform of Secondary Education. (New York: McGraw-Hill, 1973); James Coleman (Chairman), *Transition to Adulthood: Report of the Panel on Youth of the President's Science Advisory Committee* (Chicago: University of Chicago Press, 1974); and John Henry Martin (Chairman), *National Panel on High Schools and Adolescent Education* (Washington, D.C.: U.S. Office of Education, 1974).
3. Vito Perrone, *Working Papers: Reflections on Teachers, Schools, and Communities* (New York: Teachers College Press, 1989).

Imagination Running Wild

by David W. Anderson, Ed.D.

In the Dickens novel *Hard Times*, schoolmaster character Thomas Gradgrind makes the following assertion:

Now what I want is Facts. Teach the boys and girls nothing but Facts. Facts alone are wanted in life. Plant nothing else, and root out everything else. You can only form the minds of reasoning animals upon Facts; nothing else will ever be of any service to them. . . . In this life, we want nothing but Facts, sir; nothing but Facts!¹

This views children as empty vessels waiting to be filled with

facts known only to the schoolmaster. We know, however, that learning results when children physically and mentally manipulate, combine, recombine, and relate information and concepts gathered through their active exploration of the environment, rather than when they

receive facts passively from the outside. Nevertheless, although most teachers acknowledge children's need for active learning, there remains an overemphasis on the teaching and learning of facts. And too often these facts are presented in isolation without clarifying the relationship of the individual elements to the whole, or underscoring their significance to everyday life. For example, educators use task-analytic procedures to break a complex task into its constituent parts; move the student through the individual steps; and assume, often incorrectly, that the student is able to integrate the steps, in his or her mind or performance, so as to "see" how those several steps form a whole.

Approaches that stress only facts fail to capitalize on a very basic characteristic of children (really, of all human beings)—their natural inclination to imagine.² An emphasis solely on the facts of *what has been* and *what is* ignores the element of imagination, often fails truly to engage the child's mind, and neglects to ask the child to consider *what could be*.

Imagination has been described as "the core of our humanity," while fantasy has been called "a process quite central to human functioning."³ Lewis observed:

We must assume that all human beings, from birth on, have the ability to imagine. . . . All children need to have an environment where the act of imagining and its expressions are not only respected but given visible outlets. Children's *playing* should be seen as a profound manifestation of this process. *Dreaming*, so alive in all

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Imagination is the "creative faculty of the mind." An education that encourages imagination promotes curiosity, responsiveness, and intelligence. Teachers need to open to their own imaginative abilities in order to encourage their students fully.

children, is another capacity of the imagination to mingle and stir the images of our memories of the past and a sense of the future. Out of playing and dreaming comes the child's love of creating and doing—of bringing together what the child is thinking and feeling, of finding a means of expressing the inward world outwardly.⁴

Gardner's theory of multiple intelligences⁵ specified two essential components of an intelligence: (a) a set of problem-solving skills that enable the individual to resolve difficulties encountered and to create an effective product; and (b) the potential for discovering or creating problems that will lead to the acquisition of new knowledge. Imagination can be regarded as basic to these prerequisites of an intelligence, thus establishing its importance in the intellectual life of every individual. In this essay, I hope to underscore the ways in which imagination contributes to the development of a child and to draw implications for educators on the basis of that knowledge. Once the significance of imagination to the development of young children is appreciated, teachers will need to become aware of methods for its support, encouragement, and use in educational settings.

The concept of imagination

Imagination, "the creative faculty of the mind,"⁶ enables children to use images retained in memory from prior visual, auditory, and haptic experiences. Both noncreative and creative forms of imagination have been described.⁷ Noncreative forms include less controllable types, such as hallucinations and nightmares, and more controllable types in which visualization and imagery are used to recall past events, to "see" how parts blend together to form a whole, and to place oneself in another's position. The truly creative forms of imagination involve anticipatory imagination (as in foresight) and creative expectancy ("looking forward to"), and serve two functions: to hunt (e.g., search, analyze,

explore, discover), and to change (e.g., invent something new, produce novel ideas, mix or combine elements). These aspects of the creative forms of imagination correspond to Gardner's prerequisites for an intelligence. Thus understood, imagination can be seen as "the leap of mind"⁸ that enables us to envision the real or potential relationship between and among elements; to consider the "what if" and "what could be" in the present world and the world of tomorrow. It is, as Allen so eloquently put it, "the discipline of wonder."⁹

Imagination can be regarded as basic to these prerequisites of an intelligence, thus establishing its importance in the intellectual life of every individual.

Imagination may be conceived as an *action* of the mind and body, involving cognitive processes that contribute to the child's developing understanding of the world. Cognitive processes involved in imagining are likely to be those usually associated with the forms of mental organization characteristic of the right hemisphere of the human brain, most often described with terms such as intuitive, creative, artistic, analogic, and holistic.¹⁰ Teachers need to develop sensitivity to the "forms" assumed by these cognitive processes, and to the benefits derived from the existence and use of imagination throughout a person's lifetime. With a clear discernment of their educational value and advantage, imaginative and fantasy activities can be incorporated into classroom planning and may lead to more effective teaching and learning.

Unfolding of the imagination

Imagination is an integral part of the psychological makeup of every human being, although some are able to access and use imagination more freely than

others. Imagining continues to be active in all humans, throughout life—only the content and focus of imagining change over time, as overt make-believing goes underground and assumes the form of private fantasies and daydreaming. Fantasy and daydreaming, as tools of the imagination, are believed to form a continuous stream of mental activity to which we return when not directly engaged in either scanning or acting upon our environment. The overt pretend play of childhood appears to decrease as more realistic symbolic

play and games with rules become more prominent. These changes in imagining activity coincide with and reflect changes in cognition and social awareness.¹¹ Perhaps those regarded as the more creative or inventive—such as Thomas Edison, Albert Einstein, C.S. Lewis, and Madelyn L'Engel—were able to draw from their imagination more freely throughout their life.

Manifestations of imagination

Realizing that imagination is a cognitive activity places a child's imaginative processes in a more positive light and permits proper respect to be ascribed to such creative enterprise. As research into learning styles and the various states of consciousness continues, particularly in relating to our understanding of creativity,¹² intuition and imagination may gain the credibility they deserve. In fact, imaginative activity can be recognized in a variety of childhood endeavors, including symbolic and make-believe play and curiosity.

Symbolic and pretend play. Children's play has been the subject of

much investigation and theorizing. Through imaginative pretense, the child manipulates, recombines, and extends associations between and among things, actions, people, and words. Accordingly, the elaborate imaginative play of a child may be linked with creativity, and it reflects both increasing cognitive development and the child's social experience. Playfulness may be viewed as consisting of several traits—manifest joy; humor; and physical, social, and cognitive spontaneity (the principle components of which are imagination, creativity, and flexibility of thought).¹³

Curiosity. Kamii and DeVries

suggested that one objective in early childhood programs was for the children "to be alert, curious, critical, and confident in their ability to figure things out and say what they honestly think. . . . to have initiative; [to] come up with interesting ideas, problems, and questions; and [to] put things into relationships."¹⁴ This view is based on Piagetan theory, which asserts that interactions with people and objects enable the child to place things into relationships with one another, resulting in a continuous process of differentiation and integration of cognitive concepts and structures (i.e., knowledge) previously developed by the child.

Kamii and DeVries hold that the qualities of alertness, curiosity, and critical thinking are essential to this constructive activity: "Constructivism implies the importance not only of the child's figuring out the answer in his own way but also of his coming up with his own questions."¹⁵ Consequently, curiosity is viewed as an important prerequisite to learning, reasoning, and problem solving. Bradbard and Endsley observed that, although children with a high degree of curiosity will not necessarily score higher on standardized tests of intelligence, "they are more creative, flexible, and secure about and interested in their environment, and have a better self-image."¹⁶ The curious child was portrayed as one who showed a positive reaction to novel or incongruous stimuli, and persistence in exploration of those stimuli in order to gain information about them. Perhaps the most vivid description of the curious mind is that provided by Jacobs, Biber, and Rath:

The mind that is *wonderful*—full of wonder, piqued by the marvels of what has been and what might be; the mind that is *playful*—that expects the stuff of experience in thought and feeling to change, to be full of "what-ifness": these are indicators of a curious mind.

The mind that is *responsible*—able to respond to ideas and feelings; able to reorder, discriminate and refine what is known and felt; able to engage with others of different persuasions than one's own: this too characterizes the curious mind.

The *constructive* mind that builds and interprets and composes and, on the basis of new insights, imaginings, or findings, reconstructs; the *future-oriented* mind that not only looks ahead but also uses the past for looking ahead: these connote the curious mind.¹⁷

There is a direct connection between the child's natural curiosity and his or her world of imagination and fantasy. Both stem from the human desire to understand the world, to see the relationship between objects and events in order to understand how things fit



Photo by Jennifer Lloyd

together. It is through the exercise of one's curiosity and imagination that new ideas or insights are born, later to be tested out against reality: Said Gerard, "Imagination, not reason, creates the novel. . . . Imagination supplies the premises and asks the questions from which reason grinds out the conclusions as a calculating machine supplies the answers."¹⁸

Benefits of imagination

Human beings spend nearly all of their time on some kind of mental activity, and much of the time their activity consists not of ordered thought but of bits and snatches of inner experience: daydreams, reveries, wandering interior monologues, vivid imagery, and dreams. These desultory concoctions, sometimes unobtrusive but often moving, contribute a great deal to the style and flavor of being human. Their very humanness lends them great intrinsic interest; but beyond that, surely so prominent a set of activities cannot be functionless.¹⁹

With this reminder of the great amount of time each of us spends in imaginative activity, and with the assertion of the "naturalness" of such mental activity, Klinger asks us to consider the benefits of imagination. In fact, a number of purposes of imaginative activity can be identified.

Understanding the world. The use of objects, words, and images in fantasy and play are idiosyncratic and reflect each person's understanding of the nature of those objects and of the words and images symbolized. As new or novel objects and experiences are encountered by the child, they are related to prior experience and knowledge of the world. Observation of the young child at play, whether solitary or in a group, can yield insight into the child's current conceptualization of the world—how the child views things as fitting together and how the child has organized or structured (constructed) reality.

Imaginative play activity can also lead the child to entirely new discoveries full of wonder and

promise—"the reward of his own active imagination."²⁰ To describe this aspect of imagination, Jones coined the term *outsight*, which he defined as "grasping, enlivening, discovering, making one's own this-or-that datum in the real world—by virtue of gracing it with this-or-that private image."²¹ Thus, through the exercise of their imaginative capacity, children are able to discover relationships and explore the possibilities of the objects, words, or ideas that their environment comprises, so as to solidify their understanding of the relationships that exist and to expand their knowledge of the world.

Problem solving. Simply stated, imagination allows an individual to use and recall images. Mental manipulation of those images allows the child to create unique patterns, forecast future events, or discover solutions to problems. Osborn suggested three elements of creative problem solving: (a) *fact finding*—problem definition and the gathering and analysis of pertinent information; (b) *idea finding*—production and development of ideas through brainstorming; and (c) *solution finding*—evaluation and verification of the proposed solu-

promotes the development of problem-solving skills by permitting and encouraging playing with possibilities, exploring alternatives, and anticipating consequences.²²

Goal setting and planning. The ability to exercise forethought and planning is also associated with ability to imagine the possible outcomes of an action or event. The conscious use of visual and verbal images retained within the child's mind (imagining) requires the recollection of past experience, the application of those recollections to present situations, and the prediction or anticipation of likely outcomes.²³ This can be observed in something as mundane as the planning and decision making required of day-to-day activities, in planning a school project or a weekend outing, and in long-range planning (dreaming) (e.g., the child's thinking about a future career as an astronaut or a lion tamer).

Creativity. Children considered to be high fantasizers have been found to possess many cognitive skills believed to contribute to creativity: originality, spontaneity, verbal fluency, free-flowing ideas,

Thus, through the exercise of their imaginative capacity, children are able to discover relationships and explore the possibilities of the objects, words, or ideas that comprise their environment. . . .

tions, followed by implementation of that approach predicted to be the most likely to lead to a successful resolution of the problem. That these stages of problem solving involve imagination is clear: The more imaginative the individual, the more "problems" may be defined and the more ideas and solutions may be proposed. Imagining

and flexibility in adjusting to new situations.²⁴ Brunner introduced the concept of *effective surprise*, "the hallmark of creative enterprise," which he explained as consisting of three elements: (a) *predictive effectiveness*, such as the theoretical statements and predictions made in the sciences; (b) *formal effectiveness*, described as "an ordering of

elements in such a way that one sees relationships that were not evident before, groupings that were not before present, ways of putting things together not before within reach"; and (c) *metaphoric effectiveness*, which allows the individual to see relationships between and among hitherto unconnected domains of experience.²⁵ In each case, combinatorial activity—the placing of things in new perspectives—gives rise to effective surprise, which Brunner described as taking us beyond common ways of experiencing the world. Thus, the creative act (effective surprise) is a product of novelty. Discovery, said Brunner, "is in its essence a matter of rearranging or transforming evidence in such a way that one is enabled to go beyond the evidence so assembled to new ideas."²⁶ The more fluid one's ability to fantasize

child who employs his imagination to solve his problems is a child who is working for his own mental health." Similar ideas were held by Bettelheim, who felt that the child's ability to imagine future successes in the face of present failure may preclude feelings of helplessness and hopelessness.²⁷

Handling stress. After describing pockets of abject poverty in Kowloon, China, Buscaglia proposed that each of us has an unconscious dream of beauty toward which we strive, and for the realization of which we will endure hunger, pain, suffering, and degradation. For those caught in such situations, Buscaglia suggested that this dream and the hope that it may someday be realized allows the individual to continue on in spite of circumstances, led by the

structively with the environment."²⁹

A child's ability to engage in fantasy play or imagining is related to the child's sense of control and self-concept. Through play, children can create a world they are able to control, one in which objects or events take their direction from the children's imagination, unbounded by natural laws. Make-believe, or imaginative play, enables the child to work through real-life conflicts and to resolve them so that the child comes out "on top" rather than loser, as often may occur in reality because of the child's lack of competence or understanding. Thus, children may experience a feeling of power or mastery over their environment. This suggested cathartic purpose to symbolic play can be extended to all forms of imagination, and it may be viewed as essential for emotional stability and adjustment to the real world.³⁰

Buscaglia proposed that each of us has an unconscious dream of beauty toward which we strive, and for the realization of which we will endure hunger, pain, suffering, and degradation.

and to imagine, the greater the ability to "rearrange and transform evidence" and, so, to produce novelty.

Conflict resolution. The usefulness of imagination in the resolution of conflicts and frustrations common to young children in their dealings with objects and people has been stressed by many. Imagination may provide the means for children to cope with their inability to succeed in every situation or to please every authority figure at all times, to tolerate having to delay gratification, or otherwise to accede to the demands of the "real" world. Fraiberg suggested that excursions into fantasy at such times strengthen the child's ability to deal effectively with the environment. She proposed that, "the

idea that "from dreams, changes can be made."²⁸ The suggestion that dreams (imagination) are related to change in the life of the individual and society is consistent with what has already been stated about the link between imagination and problem solving, planning, creative endeavor, and conflict resolution. Wood suggested that the richer and more varied a person's fantasy life, the greater the resources from which to draw strength and to devise effective solutions by which to reduce stress and anxiety. Put simply, "fantasy is an *active* mental process in which a child seeks to cope with discomfort by changing its form or by substituting a more desired form"; the child who has not learned how to play and how to use fantasy lacks "a significant tool for coping con-

Social development. Increases in fantasy play have been associated with social and cognitive gains, suggesting that imaginative play can enhance the social development of children. Furthermore, Singer argued that an increasingly differentiated concept or awareness of self results from the make-believe play in which the child experiments with various roles and learns "who he is."³¹ Children with well-developed fantasy-making abilities have been found to display "higher levels of imaginativeness, positive affect, concentration, social interaction, and cooperation during free play than children with low fantasy-making tendencies."³² Her work with emotionally disturbed children led Wood to assert that fantasy can be a powerful tool for promoting adjustment and social-emotional growth of troubled children.³³

Implications for teachers

A primary goal of the educator is to help children develop cognitively and affectively by providing a safe and nurturing environment

in which to interact with animate and inanimate objects that will both challenge and excite the learner. Unfortunately, many teachers fail to build upon the imaginings of a child. Many even attempt to root out any flights of fantasy without giving thought to how these may enhance children's emotional and cognitive development, and without considering what children's imaginings might reveal about their understanding of the world and of themselves. In 1952, Gerard made the following observation:

Formal education is directed to our conscious reason, which can at least be supplied with content and practice; if the more intuitive and unconscious imagination can be cultivated, we have yet to learn the secret. *There is the danger of reasoning stifling the imagination. . . . To teach rigor while preserving imagination is an unsolved challenge to education.*³⁴ (emphasis added)

Gerard's warning seems still to be appropriate. Iverson wondered

Dickens' *Hard Times*, encouraging teachers to "Teach only Facts," again come to mind. Gradgrind's declaration that teachers should deal with "nothing but Facts" may be especially inappropriate in today's world, considering the information explosion and the speed with which new data are obtained and "old" ideas (facts) are corrected or discarded in our technological society. Said Iverson:

Schooling today needs to address the rapid obsolescence of facts and promote the adaptive strategies needed to deal productively with change. If one of the long term purposes of education is to prepare children to take their places in our fast-changing society, they will need open, flexible minds and the ability to combine information in new ways.³⁷

Samples posited that "school institutionalizes the world of 'outside senses,' the sense of culture, rather than the inside sense of the child."³⁸ In so doing, schools may fail to engage the child in truly meaningful learning. According to

cannot be seen as a pitcher that needs to be filled, but as a flame that needs to be kindled and fueled." Again, the words of Samples: "Students cannot be fully educated unless a legitimacy is attached to the functioning of their metaphoric and intuitive maturity as well as their rational brain capacities."⁴⁰

Proper application of Piaget's insights into young children's cognitive development demands of teachers more than simple acknowledgment that young children are at a different level of cognitive development than adults. The teacher must cultivate an awareness and understanding of the child's thought processes as they are revealed in all teacher-learner interactions. This requires that the teacher become a student of children, that is, a keen observer of children's thinking as demonstrated in their behavior and speech.⁴¹ Not only must the teacher observe the child as objects are manipulated and ideas expressed, but the teacher must also probe the child's thinking through questioning. The teacher's attention must be focused on how the child attempts to solve problems, how the child uses fantasy or imagination to approach and attempt to assimilate reality. Children learn as they try to work out their own way of doing things (constructing relationships); thus, their errors can be as constructive as their successes. Simply correcting the learner's error, therefore, is insufficient; teachers must seek to understand the reasoning processes that led the child to an incorrect understanding or response, and they must suggest another approach for the child to try. Samples' comment is to the point:

Children never give you a wrong answer, they just answer a different question. And the answer they give you is the correct answer to that different question. . . . [I]t is our responsibility to find out what the child answered correctly—we have to honor what the child *knows* as well as what we *want* the child to know.⁴²

Unfortunately, many teachers fail to build upon the imaginings of a child. Many even attempt to root out any flights of fantasy without giving thought to how these may enhance children's emotional and cognitive development. . . .

(with some sarcasm, no doubt) how often teachers post signs urging their students to daydream, play, imagine, or reflect, and observed that "the playful daydreaming stage of creative thought is actively discouraged in most classrooms."³⁵ Perhaps the most telling criticism of the schools is that of Samples, who asserted that "by ignoring [the realms of fantasy, dreaming, and feeling] and emphasizing rationality and logic, our culture has chosen to define learning and intelligence in amazingly limited ways."³⁶ The words of the character Thomas Gradgrind in

Yardley, "an active imagination leads to creative learning, to learning which is full of meaning because it is linked with personal experience and therefore makes sense to the child."³⁹ Teachers need to remember that a child does not simply absorb knowledge (facts) as dispensed by the teacher, like so many pills to be taken each day. Rather, knowledge is constructed by each child as she or he puts things into relationships on the basis of actual experiences (interactions with objects and people) and understanding. As Plutarch observed centuries ago, "The mind

The interests of the child should provide the teacher with clues to appropriate curriculum content. Teachers need to capitalize on the natural curiosity and wide range of interests of children. They need to convey to the child a healthy respect for the child's interests, curiosity, and imagination, and accept rather than criticize or discourage fantasy play.⁴³ In this way, students will feel free to pursue their own imaginative directions in learning and exploration. Duckworth believed that "the having of wonderful ideas . . . [is] the essence of intellectual development."⁴⁴ Hence, occasions must be provided within the classroom for the child to engage in creative thinking (imagining) and exploration in the pursuit and exercise of these "wonderful ideas." Duckworth suggested that a child's curiosity and resourcefulness diminish in later years because the child's intellectual discoveries are less valued, dismissed as trivial, or otherwise discouraged as unacceptable by significant adults in his or her life. To avoid this, teachers must accept and encourage children's ideas and imaginings, and they must provide settings in the classroom that suggest to the children avenues of "research" to pursue their interests and curiosities leading to further discoveries.⁴⁵

Involvement and excitement in learning would seem to follow logically from the child's own imaginings and wonderment about the world. Focusing on that "wonder" would promote more personalized learning, greater understanding, increased motivation, and higher commitment to learning and the learning process. As the child's interests and curiosity become a central concern, the teacher's planning must remain somewhat flexible and open to change. The teacher, out of respect for the child and recognition of the benefits derived from the outworking of the child's imaginings, will select and provide materials to stimulate and challenge the child's interests, but will

The more creative and imaginative the teacher is in working with students, the more the students will become free to experiment with their own ideas and imaginings.

also accept and encourage the pursuit of the unexpected, following the child's lead.

A crucial first step to freeing the children's imaginations appears to be a change in teacher attitude toward imagination, so that students perceive the classroom atmosphere as open to such activity. Such an environment will recognize the need and provide the time for imaginative or fantasy activity, provide fantasy models, and com-

municate that imagination is valued. The teacher serves as the most important "fantasy model" by being full of wonder and questioning, by revealing curiosity and divergence of thought and action, by allowing the occasional "crazy idea" to be expressed, and by bringing novelty into the classroom.⁴⁶

Teaching that respects and encourages a child's imagination will present the child with more open-



Photo courtesy of Greenfield Center School/Northeast Foundation for Children
Photo by Jennifer Lloyd

ended assignments rather than focus on a single correct response. Such convergent exercises "develop linear and logical thinking at the expense of more expansive and intuitive thinking."⁴⁷ Rather than presuming to be the source of all wisdom, teachers should question, challenge, suggest different approaches, and otherwise stimulate each child's creative and divergent imaginings, encouraging children to continue exploring, evaluating, and building on their imaginative wonderings. As Kamii expressed, "it is far better for children to seriously wonder and remain curious about the environment than to be told the answers and learn incidentally that the answer always comes from the teacher's head."⁴⁸

Jones generalized that all forms of instruction begin by appealing to students' imaginations.⁴⁹ Rather than viewing imagination as a distraction or obstruction to real learn-

and imaginative knowledge can be pivotal in communicating and understanding the very ideas and concepts the school wishes to teach them."⁵⁰ To counteract this, teachers need to facilitate and encourage the curiosity of their students by recognizing and supporting their need to explore, by honestly answering their questions, and by "displaying the positive characteristics of curious people."⁵¹

The active imagination of childhood can fade or become stunted or twisted if it is not properly nurtured. Yardley explained:

The adult who understands is willing to share the child's wonder and delight, to treat his discoveries with all the respect due to the one who makes them. . . . In this way the child's imagination is nourished and encouraged to develop so that he retains and uses his imaginative powers instead of losing them.⁵²

volve the child in social interaction by allowing the development and practice of social amenities. Of added value is that such creative activities move the teacher and student away from the constant and usually routine use of ditto papers and workbooks! The more creative and imaginative the teacher is in working with students, the more the students will become free to experiment with their own ideas and imaginings. Fantasy and imagining can be used in conjunction with the written modality to promote self-expression, self-exploration, and problem solving. Magic has been used to increase children's attention span and motivation, to create new avenues for communication, and to stimulate the senses, while at the same time improving various psychomotor skills, self-concept, and interpersonal skills.⁵⁵ The many ways by which a child's imagination can be engaged and put to profitable use in the classroom are limited only by the teacher's imagination! Yardley's admonition provides a fitting summation:

If we do not find a place for the inventor, the unorthodox thinker, the investigator of a fresh line of inquiry, or the contemplative as opposed to the traditional doer, then the educational system will perpetuate only what already exists and society will stand still. . . . [A]s teachers we have a great responsibility for the survival of imagination. It can so easily get lost in childhood, and once imagination has been allowed to die, it is very difficult to restore.⁵⁶

The many ways by which a child's imagination can be engaged and put to profitable use in the classroom are limited only by the teacher's imagination!

ing, teachers need to recognize that to engage their students more actively in learning, an appeal to their imagination may be necessary. Something novel may challenge the student's sense of competence and thereby incite his or her imagination. Children need to be assured by their teachers that it is permissible to hold and express highly subjective ideas. Both teachers and students need to understand the legitimacy of *inventing* a solution to a problem rather than simply finding an answer in a book.

Sadly, it may be possible for students to complete twelve years of schooling without ever being made aware of their own creative abilities, and with only a "minimal sense of how their expressiveness

This is consistent with Torrence's conviction that imagination is a cognitive skill that requires guided practice for its development, just as do logical reasoning and judgment. Environmental manipulation and specific training procedures have proven effective in developing imaginative play.⁵³ Wood explained: "Healthy fantasy in children at all stages of development can be fostered by high levels of adult-child and child-child interaction involving imaginative play, creative activities, reading, creative writing, games, puppets, storytelling, and other forms of dramatic play."⁵⁴ Many of these forms of imaginative activity are also methods used for developing specific academic skills (e.g., reading, writing, measurement) and in-

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Do Grades Cause Learning Disabilities?

by Charles H. Hargis and Marge Terhaar-Yonkers

If a spelling test made up of twenty words were given to the students of a typical elementary classroom, it would surprise no one to see a wide range of scores result. It would be expected. This range of scores would provide the basis for assigning grades. The same things could be said for tests or assignments given in most subject areas. A test or assignment is given to a class or group of students, the teacher checks or scores the papers, and grades are assigned. A distribution of grades usually results. The fortunate, able students will get As, and the unfortunates will get the Fs.

It is as if we did not recognize the normal array of individual differences in learning ability that exists in every classroom. We readily accept differences in artistic, athletic, and musical talent. We also expect myriad differences in physical and personality traits. However, we seem to have a rigid, unyielding view of academic aptitudes and abilities, despite the wide variation in the same groups of students as occurs with so many other traits and characteristics. We provide the same curricula to all students at normative levels that are grouped in a classroom. The curricula are designed with no concern for

the individual learner's interest but are established for the means of chronological age groups over thirteen academic years. This is done in spite of the fact that the academic performance and readiness levels in any primary grade will range by more than 2½ years.¹ The demands of the curriculum will be too great for some students and very easy for others. It will be pertinent to some and irrelevant to others. As Emmett Betts noted many years ago, the curricular sequence is laid out in lock-step. He claimed that the primary reason for most of the learning problems that students experience is the unyielding nature of the lock-step curriculum. Students are expected to perform up to (or down to) the curricular activities and material levels that are assigned to their grade.² This inevitably produces the failure described above.

We must accept the variations in academic readiness levels, learning abilities, interests, and relevance that exist in every

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Poor grades are not evidence of learning disabilities but their primary cause. Grading prevents individualized instruction, requires failure, damages self-concept, produces negative behavior, and squelches achievement and creativity. Grading is instrumental in producing the discrepancy between achievement and potential that emerges in learning disabled students.

classroom. We must, therefore, recognize that providing a level of instruction from one curriculum level to each of these classrooms will produce a distribution of scores and grades that matches the range of levels and abilities. The variation of scores and grades simply confirms the variability of the students.

The most frequently cited reason for dropping out of high school is poor grades. Estimates for dropout rates are frequently in the range of twenty to thirty-five percent.³ These figures usually refer to the number of students who start high school but fail to finish. They do not include the students who drop out before they actually start high school. These figures seem very high, but they reflect a definite improvement over the dropout rate of the previous generation. Mandatory attendance laws have improved graduation or completion rates, and some attention has been given to meeting individual differences. Grouping or tracking systems made possible the survival of some lower achieving students at the secondary level. Some additional students survived when they were referred to emerging special education programs. In recent years, even more students have qualified for special education after having failed for a length of time sufficient to qualify as being learning disabled by a discrepancy formula.

We seem to accept that students will receive failing marks in most classrooms each and every term. Why do we have such expectations? Are there some benefits associated with giving failing grades? The authors' view is that there are no good reasons or benefits to be derived from our grading system. Moreover, we believe that grades are primarily responsible for the veritable hemorrhage of normal students into special classrooms, and that they are responsible for a greatly reduced level of achievement and literacy in a large percentage of lower achieving but nonhandicapped students.

Chronic failure produces or

exacerbates learning and behavior problems. Chronic failure produces the discrepancy between achievement and potential that leads to the learning disabilities label. Chronic failure produces the injury to self-concept that makes for serious emotional disturbance in many children. Poor grades cause most learning disabilities and behavior disorders. Time and time again, we note the dramatic change in the behavior of students so labeled when they receive special education placement, and are given work that they can do and which allows them to feel some success.

To reiterate, chronic failure leads to a discrepancy between achievement and potential. Failure is non-productive. As W. Glasser pointed out, all you can learn from failing is how to fail.⁴ Actually, a student cannot learn adequately unless he or she is performing well. Students who are getting poor grades are not achieving their potential. Students must experience success in order to achieve their potential. Students who experience failure are actually falling farther and farther behind.

K.E. Stanovich discussed "Matthew effects" in learning to read.⁵ Basically, Matthew effects, some-

occur in learning disabled students, too.⁶ They account for the poor pattern of achievement and for the emergence of the discrepancy between achievement and potential. Students must be given reading activities that they can do successfully, if they are to achieve to their potential. The more they read successfully, the more successfully they can read. They should not need to get failing grades for a period so long that the inevitable discrepancy emerges.

Grades cause a double standard to exist in the way we treat students. As E.R. Forell points out so well, the history of higher achieving students has been one of success and of comfort with the instructional materials.⁷ On the other hand, low achieving students are frequently challenged with materials above their skill level. In higher achieving students, the evidence of success is commonplace. They read easily and fluently in reading groups, they encounter few unknown words, and their comprehension is high. In math and other subject areas, the same evidence of success appears. It should seem obvious that this level of success is basic to achievement. Low achievers need the same standard as high achiev-

The bulk of the students who are currently enrolled in special education programs are not really handicapped at all. They are simply normal but low achieving students who consistently have received failing grades.

times called the "bootstrapping effect," describe the rich-get-richer and the poor-get-poorer phenomenon. They explain the divergence between good and poor patterns of reading achievement. Students who are not experiencing success in learning to read fall increasingly farther behind their potential for learning to read. Matthew effects

ers. Low achievers need a comfortable placement on the curricular path in order to achieve to their potential. Success is fundamental to achievement: lack of success retards achievement. There should be none of the double standard that grades foster. Grades make it acceptable, even desirable for some students to do poorly.

Grades and learning disabilities

Recently, special education has been criticized for not being special at all. Of course the observation is correct, but the criticism is not warranted. The bulk of the students who are currently enrolled in special education programs are not really handicapped at all. They are simply normal but low achieving students who consistently have received failing grades. There typically will be no other evidence of a learning disability and no signs of any organically based difficulty. These students do not need a special method of instruction; they have the potential to learn on the continuum of topics from the regular curriculum. The instruction simply needs to be conducted at a rate or pace that matches the student's ability, not the normative pace dictated by the lock-step curricular sequence that is assigned in rigid structure over the grade levels through which students are required to move in near unison.

How do grades contribute to this problem? Are grades simply evidence of rigidity in the curriculum, or are they a cause? Grades are not really a symptom of curricular lock-step; they are a contributing factor to its continuation. We often think of grades as a tool for maintaining "standards" in school (e.g., "We shouldn't give students a passing grade if they cannot do acceptable grade-level work.") This common notion holds the curriculum in a sacrosanct position, while transferring the blame to the student ("It is the student's fault that he is not working up to grade-level standards.") Also, we seem to hold the grading system in a similar elevated position. ("We must give grades, and we must give a real distribution of grades. After all, who wants to contribute to grade inflation; grades wouldn't mean anything then.") Having a grading system creates the illusion that each child alone is responsible for his or her accomplishments.

We seem to have institutionalized our commitment to our grad-

ing system, in spite of voluminous evidence that grades do little or no good and have tremendous negative impact on lower achieving students. We believe we can use grades to motivate students. However, poor grades do little more than to demoralize students. The only students who are motivated by grades are those who can and already do get good grades.⁸

Grades isolate students from one another and prevent healthy cooperative learning arrangements. Students are admonished to do their own work, not ask for help from other students. Students are discouraged from helping one another. They are placed in competition. This environment is nothing like the learning environment found outside school, where social skill is needed and cooperation is necessary.⁹ When students are isolated and placed in competitive environments, they have little opportunity to acquire social and cooperative skills that are necessary and desirable in dealing with persisting life problems.

A wide distribution of grades from any classroom is primary evidence that there is little or no attention paid to the individual differences of the students in it.

High grades replace learning as the objective of education. The problems with grade-driven educational systems were dramatically illustrated in the books *Wad-ja-get*¹⁰ and *Teaching Without Grades*.¹¹ Students can expend enormous energy in trying to get a high grade without regard to what they are learning. They try to find what the teachers want on tests and projects. They seek out and exhibit quirks and prejudices in their teachers. The more able students are often more successful in this game, but real learning suffers and curiosity is stifled.

In the isolated and competitive

situations created by grades, students often cheat. For the least able students in these classrooms, cheating is perhaps the only hope for getting a passing grade. Cheating is virtually an accepted practice because of the importance of grades. In addition, real substantive assessment is diminished, because real achievement can be measured and reported only by determining what skills and objectives have been learned. But most assessment time in school is devoted to giving grades, grades that provide no substantive information about where a student is on any curricular sequence or what content has been mastered.

Grades alleviate the need for truly individualizing instruction. We have this system that just about demands a distribution of grades in every classroom and a significant portion of those grades to be in the failing range. The system insures that a wide distribution of grades is produced by providing only grade-level instructional activities. This practice perpetuates

the kind of classroom condition of which the authors are most adamantly critical. A wide distribution of grades from any classroom is primary evidence that there is little or no attention paid to the individual differences of the students in it. If instructional level activities were matched with each student, each student would demonstrate evidence that such a match had been made by performing at the same high proficiency levels.

Individualized learning

Why should students be working at uniformly high performance levels? Doesn't this mean that all

students would have to get the same grade? If everyone gets the same grade, would grades mean anything? Taking these questions in reverse order, we conclude the following: We don't believe that grades mean anything anyway. They simply show that we don't individualize instruction. They do not tell a thing about the learner's progress, or exactly what level of achievement or proficiency a student has attained. All students should get the same grade; more precisely they should all be getting the same range of scores. These scores would reflect that the student is working at an appropriate instructional level. The answer to the first question, then, is that all students should be working at high performance levels because success is necessary for optimal achievement, for an adequate self-concept, and for maintaining interest and involvement in learning activities.

Grades have given us an erroneous notion of what individualized instruction is. Many think that it is individual attention such as small groups or one-to-one tutoring relationships. Almost always the aim of individualized instruction is to help the student work up to grade-level standards or to get a passing grade in grade-level work. Some feel that individualized instruction is achieved merely if the instructional activity is tailored to the individual learning style or modality preference. Here also the effort or change in method is aimed at getting the student up to grade level or to get a passing grade on work being done at the student's grade placement. The essential feature of individualized instruction is overlooked. Instructional activity should be matched to the ability level of the students. The learning activity must be doable. The individualized match has been made when the student performs at the same level expected of adequately achieving students. High achievement is demonstrated by high performance. If anything

in a classroom should be graded, it should be the quality of the instructional activity to student match. Good individualized instruction is evidenced by good performance.

This pervasive view of individualized instruction was illustrated, with considerable irony, by a teacher in a rural school near us. This particular teacher's classroom contained twenty-eight students and comprised the primary grades in her school. She was doing a remarkably efficient job of coordinating the instructional activities of students working at many different levels. All of the students were working—with a great deal of concentration—at an appropriate instructional level. Much work was done as a form of supervised study. There were several learning centers set up. The children were completely free to ask questions of one another or to help one another. When the teacher was asked how she managed so much individualized instruction, she looked astonished and replied, "I don't do any individualized instruction. I don't have time for it!"

One question this teacher raised had to do with the difficulty she had with assigning grades to her students. She couldn't figure out how to give grades, since she al-

for this; she felt that some specialist might have done more for those of her students over the years who seemed somewhat slower or who seemed a little "off."

This teacher's instructional delivery system had many features of the model we advocate. All classrooms have a remarkable range of individual differences, and each teacher should be prepared to deal with students as many rural teachers already must do. Only in this way can we stop producing such staggering numbers of learning disabled students who are in fact curriculum casualties.

It is difficult, if not impossible, to use a conventional grading system in this model. Children who are given instructional activities that are appropriate for their individual instructional needs will perform appropriately well at it. Grading systems cause or encourage curricula to be laid out in lock-step. Grades make it all right to set curricular objectives appropriate for the average students at each grade level. This may be well and good for the students who are average academic performers, but it is devastating for students who fail.

Holistic educational systems are typically structured to operate without grades. An early advocate of holistic methods, Francis W.

If anything in a classroom should be graded, it should be the quality of the instructional activity to student match.

ways had to give students work they could do so they would continue working. The response that she really didn't need to worry about giving grades, because she was doing such a good job, was even more ridiculous to her than the notion that she was individualizing instruction.

Possibly the most significant feature of this teacher and her instructional "method" was that she had never made a special education referral! She even seemed apologetic

Parker, indicated adamant opposition to the use of grades in the late nineteenth century.¹² This was about the time grades became a part of common educational practice. Some alternative education programs operate without grades as a matter of policy. The C4R programs are examples.¹³

Holistic systems are invariably structured in ways that discourage the use of grades. Socialization and cooperation are encouraged. Students are supposed to help one

another, and students are supposed to be successful. Cheating is not even an issue, if by matter of policy everyone is supposed to do well. Teaching is not curriculum or grade centered, but student centered. Learning is the valued process and product. Learning need not occur on a prescribed date and time for all students; it is individually guided.

Unfortunately, most public schools are not guided by holistic principles. Many districts have set up dropout prevention programs for so-called "at-risk" or "problem" students, but the existence of such safety valve programs encourages regular education programs to continue in the same old way. When such safety valves are available, schools can continue to blame the student rather than the system that produced the problems in the first place.

We believe that our institutionalized system of grading is an important factor in handicapping chil-

dren. Grades are a major obstacle to providing humane educational opportunities for all children. However, grades are such a fundamental part of our educational system that we fear they will be abandoned only with the greatest reluctance.

Notes

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2. E.A. Betts, *The Prevention and Correction of Reading Difficulties* (Evanston: Row, Peterson, 1936).
3. E.E. Gickling, V. Thompson, and C.H. Hargis, *Curriculum Based Assessment: A Task Success Approach* (Newton: Allyn and Bacon, in press); "The Dropout Crisis," *NEA Today* 4, no. 1 (1988), p. 3; Andrew Hahn, "Reaching Out to America's Dropouts: What to Do?" *Phi Delta Kappan* 69, no. 4 (1987), pp. 257-266.
4. W. Glasser, *The Effect of School Failure on the Life of a Child* (Washington: National Association of Elementary School Principals, 1971).
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11. M.S. Marshall, *Teaching Without Grades* (Corvallis: Oregon State University Press, 1968).
12. R. Miller, "Two Hundred Years of Holistic Education," *Holistic Education Review* 1, no. 1, (1988).
13. D.N. Lombardi and R.J. Corsini, "C4R: A New System of Schooling," *Holistic Education Review* 1, no. 3 (1988).



Photo courtesy of Clement Mehlman

A Perceptual Approach to Teaching

by Bruno Deschênes

Most of our teaching methods nowadays educate students in theories and concepts, in the rational ways of thinking considered essential in our society. Rarely do teachers teach them *how* to learn, how to understand the world in which they live from a global and holistic point of view. Our individual perception of our environment greatly molds our understanding of it, as much psychologically as intellectually. Unfortunately, this is denied or considered as being of secondary value by our

modern teaching methods, which take for granted the theories describing and explaining the phenomena they wish to teach as being *the reality*. The perceptions and sensations (psychological, emotional, physiological) that our environment activates are perceived holistically

by any individual, especially children. It is our rational mind that fragments these perceptions into parts, seeing them as being mechanically rather than meaningfully linked. Yet it is possible to create teaching methods that use students' own perception as a very powerful tool in their learning endeavor.

Many research studies on hearing have shown that hearing is the first sensory perception to function totally in the womb, beginning around the 4½-month point of gestation.¹ The ears consequently become the first body part to be used by the child to feel, experience, and understand the outside world from inside the womb before birth. Due to this early development of audio perception, a child's wish to learn and understand what is going on with his or her environment is at first done through what he or she hears. After birth, the senses of sight, touch, smell, and taste are added to create a global spectrum of sensations that will be used to grasp and get meaning out of the environment. The child, at this stage, receives from her surroundings a global field of perceptions. She will then learn to discriminate between what she hears, sees, smells, tastes, and feels, since she can activate specific types of emotional, physical, and physiological sensations.² These are perceptions and qualities, not at all concepts. It is only much later that the child will be able to use his or her mind to start deriving some rational meaning. With music, for example, the child relates emotionally from the perceptions and emotions that music activate in him, generating a perceptual understanding and experience of music

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As the experience of music reveals, individuals perceive the world directly and sensorially prior to their theoretical, conceptual knowledge about it. Education needs to take the individual perception and personal meaning of each student into account.

that will serve as his premises for his rational and conceptual understanding of the music theories he will be learning later on. In this sense, any form of art instantly refers to our individual perception of our environment.

Generally speaking, contemporary teaching methods fail here. They do not take into account the global perceptual and cognitive integration processes in child development. In many cases, these are denied and considered of secondary value. One of the most important problems this situation causes in the development and learning processes of a child is that he has great difficulty in creating and seeing a link between what he perceives (i.e., the inner perceptions he has from his environment) and the concepts and theoretical notions he is being taught by his teachers. If the corresponding notions are taught without referring directly to these perceptions, he will have a much greater problem in creating that link than in the opposite situation. He might even fail to understand these notions. Consequently, this will slow down his integration and understanding of these concepts. Somehow, the students who are called "talented" or "intelligent" are the ones who have the ability to create this link more easily.

From a holistic point of view

Any conceptual notion is a rational and intellectual representation of a perceived phenomenon created in order to interact and interrelate with it. In this line of thinking, the thoughts arising in our mind are a result of this perceived phenomenon. Even though as adults we give much importance to our thinking abilities and mind processes, any thought, idea, memory, belief, or value inevitably refers to and/or corroborates the perceptual aspects of life.³

In his development, the child learns to discriminate between the particularities of each type of sensation: visual and auditive, raising

emotions or physical sensations, pleasant or unpleasant, attracting interest or not, and so forth. In this sense, our perceptions are global qualities. They are remembered or they attract our attention for the qualities we experience. By itself, a quality cannot be fragmented, intellectualized. It is felt and experienced as a whole. From this, the child starts to build his perceptual knowledge of the world. As adults, we have the capabilities to describe, to judge, to draw conclusions, to create, and/or to use the emotions, memories, or thoughts being raised. This mind process is a result or a consequence of the globality of what we perceived and experienced. What we then express is our individual understanding and rational representation of it; we cannot pretend that it is *the* representation of reality. This intellectualization happens a fraction of a second later. This can be confirmed by the fact that no two persons will ever perceive the same thing, have the same thoughts, feel the same emotions while listening to exactly the same piece of music, for example. These thoughts belong to the individual perceiving. In this sense, to say that our thoughts correspond to or are *the reality* is very far from the truth.

A visual sensation is easily differentiated from an auditive sensation. This differentiation happens in the brain and mind of the individual a fraction of a second after the phenomenon "started" to be perceived. What is being perceived is a global quality out of which this differentiation is drawn.

A perceptual approach to teaching

My work on music perception, listening, and teaching encouraged me to conceive and elaborate on what I call a "Model for a Perceptual Integration of Music," from which could be developed new music teaching methods that will take into account the primary perceptual value of music as I just described it.⁴ I would like to take a

short look at this model in presenting it in a broader perspective. Even though I conceived this model for music teaching methods, it can easily be adapted and/or modified for other forms of art or subject matter. The word "model" in this context refers to a series of thoughts, ideas, proposals, and hypotheses I am proposing and from which teaching methods can be elaborated and developed. By "perceptual integration," I indicate that music—consequently our environment—is integrated and grasped perceptually, psychologically, and emotionally by any child from birth on. This integration is a holistic and global one, not the fragmented integration that we adults do. It is only later on in his or her development that a child will intellectually understand, individualize, and fragment what he or she perceives.

In this perspective, teaching only from a conceptual point of view, as our present methods do, is taking into consideration mainly our thinking processes, thoughts, value judgments, and ideas *about* what we perceive. This denial of the perceptual learning and understanding of our environment by any teacher means inevitably denying the basis of the interest of any student on a particular matter.

Amongst the proposals and hypotheses offered in this model, I include the following:

1. *Music is first of all a perceptual phenomenon.*

The first thing that attracts us when we listen to music, look at a painting, or sense anything is the perception we have of it from which a thought, a memory, or something else pops out. We use these thoughts to make and attach a value judgment to what is being perceived. Our primary contact with our environment is perceptual.

2. *A musical work is perceived as a whole, not as fragmented and individual parts.*

Music (and our environment) is perceived qualitatively, and felt

as a whole in which different music events are taking place. Such a quality is perceived and felt globally as an inner state in which appear sensations, thoughts, and memories.

3. *After a first listening of a musical work, what we retain are the inner states, sensations, impressions, and emotions being activated by this musical work.*

After a first listening to a musical work, our main impression is a quality of the whole work, in which we notice some events that attracted our attention more than others. This quality is the systemic and holistic result of the different body sensations, memories, emotions, and inner states activated by the music and the musical events that attracted our attention. During later listenings, we look for specific types of musical events that will activate specific inner sensations in order to re-create a desired state.

4. *As individuals, each one of us has a personal inner experience of music. Our attitudes, emotions, expectations, value judgments, and beliefs will filter our perception of music.*

For example, if someone considers only the emotional value of music, this person will deny the other values. Our perception is filtered by imposing our thoughts on what we perceived, and letting through only what correspond to and corroborate these thoughts.

5. *The first role of the teacher is to help the (music) students to take a look at and understand the meaning of these sensations and inner states activated by what they perceive.*

The first role of the (music) teacher should be to bring introspective awareness of the role, value, and impact of these sensations on our learning. The teacher will also help the students to trust their perceptions

in order to use them in a creative way in their learning endeavor. By working in this manner, the students will be able to refer to their first level of understanding and learning. This will greatly help them in their self-confidence and self-trust.

To conclude

These are but a few of the different aspects involved in "perceptual integration." My purpose in asking you to consider such an approach to teaching is to find a way to help students use creatively their perceptual level of understanding, not at all to replace their intellectual one. We need it in our modern society. But with this type of approach, as teachers, we could be able to guide the students to get in touch with their individual ways of learning. One of the most significant problems a student can encounter in any teaching method is to be unable to relate to what the teachers are teaching him.

A great number of musicians in the jazz and rock fields learned to play their instrument by ear. A lot of them are great masters of their instrument and yet are totally unable to read music. They learned music from their individual feelings and perceptions of it. The purely intellectual approach is a limited way of dealing with students, and it does not suit all students. Some are more visually oriented, some prefer to *do* things, some prefer to feel before they act. By helping them get in touch with their individual ways of learning, we can help them gain self-confidence and self-trust. They will also perceive trust from their teachers who acknowledge their individual and personal feelings. This can be done by guiding the students into their global and individual perceptions of the world—in other words, encouraging them to take a look introspectively at what happens and lies before, beyond, and outside of their intellectual and fragmenting mind.

Notes

1. Alfred Tomatis, *La Nuit Utérine* (Paris: Stock, 1981), p. 34: "Les approches anatomo physiologiques nous indiquaient alors que dès le quatrième mois et demi de la vie intra-utérine le fœtus était capable de réagir aux sons qui lui étaient adressés. Précisons qu'à cet âge son oreille est normalement constituée."

My main source on the ear processes and on audition is the work of the French researcher Alfred Tomatis. He spent many years looking at the hearing ability of the fetus in the womb and of the newborn baby. Including *La Nuit Utérine*. You can find the results of his research in his books *Loreille et la Vie* (Paris: Ed. Robert Laffont, 1977), and *Vers L'écoute Humaine*, Tome I et II (Editions E.S.F., 1974).

2. Joseph C. Pearce, *Magical Child Matures* (New York: Bantam Books, 1985), p. 6: "... all learning is from the concrete, or sensory-motor, to the abstract, or purely mental." Most of my notions regarding child development are influenced by Pearce's work.

3. Maurice Merleau-Ponty, *The Primacy of Perception* (Evanston, IL: Northwestern University Press, 1964), p. 13: "The certainty of ideas is not the foundation of certainty of perception but is, rather, based on it—in that it is perceptual experience which gives us the passage from one moment to the next and thus realizes the unity of time. In this sense all consciousness is perceptual, even the consciousness of ourselves." and "The perceived world is the always presupposed foundation of all rationality, all value and all existence. This thesis does not destroy either rationality or the absolute. It only tries to bring them down to earth."

4. Bruno Deschênes, *Beyond Music, Towards a Musical Consciousness*, to be published; "A Perceptual Approach to Music Teaching," presented during the 1987 Conference of the International Society for Exploring Teaching Alternatives. This section is a summary of the chapter titled: "Model for a Perceptual Integration of Music." My most important sources for this model are the following authors and books: William Weiss, *Introduction à la Pédagogie Musicale de L'acteur* (Ottawa: Éditions de l'Université d'Ottawa, 1981). Mr. Weiss worked with Alfred Tomatis and Robert Francès. Robert Francès, *La Perception de la Musique* (Paris: Librairie Philosophique J. Vrin, 1972). David Bohm, *Wholeness and the Implicate Order* (London: Routledge & Kegan Paul, 1980). Fritjof Capra, *The Turning Point* (New York: Bantam Books, 1983), Chapter 9. I need to specify that my references to these authors are not specifically for what they wrote as for the philosophy expressed in their work.

Whole Language Learning: Creating a Means-End Continuum in the Second Language Classroom

by Mark Caprio

A major problem facing second language education today is that the methods and materials being imposed on language students do not resemble the language that is being used by the people in the language society. That is, the means employed to promote language development do not resemble the ends of language learning, being able to communicate successfully in the target language. This paper first discusses the means-end relationship in traditional language learning practice. It then introduces a relatively new approach, the whole language approach to second language acquisition and shows how it bridges the gap between classroom language learning and actual language use in the society where the language is used.

Is second language learning involved in what Thomas Kuhn, in his book, *The Structure of Scientific Revolutions*, describes as a "paradigm shift?"¹ I think yes. Recent

literature in language learning has discussed this shift.² Too, language learning strategies straying radically from traditional approaches have been gaining in popularity not only in first language learning, but in second language learning as well.³ Lastly, recent research also seems to support the need for radical changes in the way languages are being taught.⁴

One of the fundamental arguments of those calling for change concerns the relationship between the means of language learning and the end of language learning. They direct their attacks at the lack of a direct relationship between the "how" of language study and the "why" of language study.

In many foreign language classrooms, teachers have been teaching language elements with the hope of getting their students to enjoy language fluency. They have been teaching as if the act of learning a foreign language were, at most, indirectly related to the act of using a second language. But there are more direct and efficient ways of attaining the same goal.

Traditional approaches

The prescription for language fluency in many language

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The whole language approach represents a new, holistic paradigm in language arts education—even in foreign language instruction. The program described here proved highly effective as well as more personally satisfying in teaching English to students at a Japanese university.

programs is as follows. Step 1, placement: The students take a language proficiency test (paper and pencil) in order to determine their language ability level. They are then grouped according to the results of this test. Step 2, treatment: The teacher assigns a textbook chosen to coincide with the students' perceived ability level. The textbook consists of a collection of grammatical, notional, and/or functional language elements, arranged sequentially according to level of difficulty or frequency of use, determined to be necessary for the students at their perceived level of ability in the target language by a higher authority (classroom teacher or administration). Step 3, evaluation: After a determined interval of time has passed, the students are tested on what the higher authorities expect the students to have learned over this time period. If the students answer a certain percentage of the problems correctly, they are allowed to continue on to the next level. If the students are not successful, they are prescribed more of the above. This process continues until the students reach the highest level in the program. If a student repeatedly fails, the higher authorities label him a "problem student" or one who "just does not have what it takes to be a successful language student."

The program outlined above is definitive of many of the language programs designed for English language study around the world. So far as our discussion of means and ends is concerned, the program has three false assumptions.

1. There is only one possible means to attain the desired end. All students learn language in a similar fashion.
2. There is only one possible end for studying language. All language students have similar needs and interests.
3. An abstraction of a desired end can be used as a means

of attaining a desired end. The sum of the parts of language are equal to the whole of language.

Here we find the direct link between the means and the end broken as decisions concerning language learning are not being made by those with most at stake in the learning, the students. Also, the means used to attain the end, as well as evaluate the students' progression towards the desired end, are at most an abstraction of the end itself.

Second language classrooms around the world are plagued with problems such as overcrowding and limited teacher-student contact time. The teachers of these classrooms are forever in search of remedies for these problems. They continuously search for new materials and new techniques to use in class with the hope of motivating and teaching language to students. Teachers make valiant attempts to solve these seemingly forever recurring problems, though, with old solutions.⁵ Yet, what has gone unnoticed is that the problems facing language teaching today are not rooted in the micro-educational aspects of the classroom, such as material selection or activity sequencing. The problems are macro-educational—involving the underlying philosophical aspects of the classroom including the roles of the teacher and the student, and the relationship between the means and the ends of language learning in general, as well as the language classroom itself. A rethinking in these areas of language learning is needed for us to be able to create a truly effective language learning environment. During the past few years, such a rethinking has been underway. The following paragraphs describe one result of this enquiry, the "whole language approach," and show how this method was successfully applied to English language classrooms at a Japanese university.

The whole language approach to language acquisition

Whole language learning is a new approach based on old ideas.⁶ Goodman and Goodman describe whole language learning as

a comprehensive approach to developing reading, literacy, and . . . all learning based on a positive, humanistic acceptance of the learner. It builds on the strengths of the individual learner and minimizes pre-occupations with the weaknesses of the student.⁷

Within this approach to learning, the following conditions are essential:

1. *The role of the teacher.*

The teacher acts as a guide for the students. He or she monitors and encourages development in the language. Whereas traditionally teachers have been responsible for deciding *what* was to be studied, in this approach, the teachers' responsibility is to show *how* learning can take place if the student has a desire to progress in the language. This requires the teacher handing many of the decision-making responsibilities over to the students. It also requires that students be given time to grapple with language learning problems on their own, or with the help of their peers. During this time, teacher-monitoring, rather than teacher-dictating, of student development is necessary.

2. *The role of the student.*

The individual student, not the teacher, is the center of the learning experience. Learning starts from where the learner is and expands from there.⁸ For this reason, the student must take responsibility for learning. He or she is responsible for choosing materials for reading and listening and topics for writing and speaking that meet individual needs and interests. Every effort is made to show the student that learning is not a stagnant entity reserved for the classroom. The student's out-of-

classroom world can serve as a potentially dynamic language learning laboratory as well.

3. *Classroom materials.*

Materials for learning should be in congruence with the individual needs and interests of the student. Materials must consist of whole, authentic texts of language and not fragmented bits and pieces of language. Goodman and Goodman state that "attention must shift away from words and toward comprehension of meaning."⁹ Here, authentic materials chosen by the students, such as novels or movies, and student-created language (poems, stories) are used as the classroom "text-book" in place of traditional language learning exercises. The students are made to realize that since language learning is a process, complete understanding of the material is not necessary for progress in the language to occur. Students are encouraged to take risks in drawing meaning from the materials used in the language learning process.

4. *Student evaluation.*

The end, or goal, of language learning should be a natural extension of the language learning process itself. That is, the means employed should simulate the desired end. The degree of advancement toward, as well as attainment of, the desired end is not to be determined by periodic tests of language elements, the result of which give a superficial, extrinsic and, more often than not, false satisfaction to the learner. Advancement is measured by the individual student's self-realization of his or her progress, an awareness that produces a genuine intrinsic satisfaction. Fluency in the language is to be determined by the degree to which the student can communicate meaning in language production as well as draw meaning from a language text, not by the degree to which the student can

recall language elements in a test of "language aptitude."

A practical application of the whole language approach

I have used a whole language approach in required English language courses for non-English majors at a university in Nagoya, Japan.¹⁰ The students had all completed six years of English study in junior and senior high school but lacked communicative ability in English, as most of their instruction had consisted of grammar study and preparation for entrance exams. Seven classes averaged thirty-three students per class and met once a week for ninety minutes. The level of motivation in these classes is low. Other teachers have complained that these students are difficult, if not impossible to teach due to a lack of motivation or interest.

A main concern when creating this syllabus was to allow the students to interact with the English language through the four major skills of reading, writing, listening, and speaking. Each class began with a fifteen to twenty minute free conversation period. This was fol-

A concentrated listening period followed the free conversation period. The listening materials moved from short passages to longer passages over the course of the year. The students began with short listening exercises (brain teasers, short conversations, etc.) and then progressed to short stories, such as *Mystery Theater* and "Peter and the Wolf." Classrooms furnished with video equipment used American television shows and full-length movies for their listening practice. The students were also encouraged to use the audio-visual room, where individual listening and viewing booths were available for extra listening practice.

The last part of the class was devoted to silent reading and writing. The students were asked to read four books, newspaper and/or magazine articles over the school year. They also exchanged journals with a classmate. A reading and writing time was set up for the students to do this work. This time also allowed me the chance to give more individual attention to the students.

The students were graded on a

Advancement is measured by the individual student's self-realization of his or her progress, an awareness that produces a genuine intrinsic satisfaction.

lowed by thirty to forty-five minutes of listening. The remaining part of the class was used for reading and writing.

During the free conversation period, the students were allowed to talk with classmates of their choice. They were also free to choose their own topics. The only requirement was that they had to use the time to engage in English conversation. They were given the option of coming late to class if they did not want to participate in this activity.

point system based on the quantity, and not quality, of their interaction with the English language. The students' final grades were computed by averaging the four grades they received for the four skills. Though the demands placed on the students were much more than in other classes taught in this program, only 3 of 231 students I taught failed the class. Over half (161 students) earned either an A+ or an A (A and B respectively by American standards). Most other sections of the

required English language program graded the students on test scores and occasional homework assignments. These classes averaged three failures each.

The students' reaction to this style of learning was very positive. Students commented in the evaluations they wrote that they felt more relaxed in the class. They also said that they considered the class to be more purposeful because they were studying "live" English and not "dead" English from a textbook. Many students observed improvement in their language capabilities as they were able to read a book more easily or catch more of the video that they were watching. The students also noted that they felt more confident conversing in the language. Students wrote that they had used English to assist foreigners in distress. They said that even though their English was not grammatically perfect, they still felt confident that they had communicated in the language.

Students also reported that they were starting to use, outside of the classroom, some of the language learning activities used in the classroom, such as renting videos of movies and listening to the English rather than reading the Japanese subtitles. One student wrote that she went over the events of the day in her mind in English on the crowded train home. Another group of students helped a classmate who was hospitalized for the semester pass the class by holding free conversation sessions with him in the hospital. These they recorded and submitted to me. The classroom walls for these students had been pushed back to accom-

modate their personal lives as well.

Many of the students also did more work than was required for even the highest grade. In their exchange journals, the students, working in pairs, averaged 54 pages of writing. Over half of the students (170) wrote more than was required for an A+ in writing. Two students finished 180 pages; almost five times what was required for the top grade. In free conversation, the students found it difficult at first to converse in English for the time allotted to them. Towards the end of the year, it was difficult to get them to stop speaking in order to continue with the class. For these students, the grade had become secondary to their advancement in the language. In response to a question asking what grade the students felt they deserved, one student responded, "It is not important to me what grade I think I deserve, as I am studying for me and not for the grade."

Conclusion

The whole language approach to learning offers a unique opportunity for language students to truly gain in their language study. It does so because, from the very beginning of the learning experience, the students are given total responsibility in decision making. The students first choose whether or not they want to pursue study in the language, and, from there, they decide how far they want to advance in the language. Thus, the students are able to alter their means of language study to suit their ends-in-view, as well as the ends-not-in-view, of becoming proficient in the target language.

Notes

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3. P. Elbow, *Writing with Power* (New York: Oxford Univ. Press, 1981); K. Goodman and Y. Goodman, *A Whole-Language, Comprehensive-Centered Reading Program* (Tucson: University of Arizona Program in Language and Literacy, occasional papers no. 1, 1981).
4. M.H. Long and C.J. Sato, "Classroom Foreigner Talk Discourse: Forms and Functions of Teachers' Questions" in *Foreign Language Proficiency in the Classroom and Beyond*, edited by H.W. Seliger and M.H. Long, pp. 268-285 (Skokie, IL: National Textbook, 1983); M.A. Christison and K.J. Krahnke, "Student Perceptions of Language Study," *TESOL Quarterly* 20 (1986), pp. 61-81.
5. Raimes, "Tradition and Revolution in ESL Teaching."
6. In the late 1960s, several learning theorists paved the way for whole language approaches, including George Leonard, *Education and Ecstasy* (New York: Delacorte, 1968); William Glasser, *Schools Without Failure* (New York: Harper & Row, 1969); Neil Postman and Charles Weingartner, *Teaching as a Subversive Activity* (New York: Delta, 1969); and Carl Rogers, *Freedom to Learn* (Columbus: Charles E. Merrill, 1969).
7. Goodman and Goodman, *A Whole-Language, Comprehensive-Centered Reading Program*, p. 1.
8. K. Goodman, *What's Whole in Whole Language?* (Portsmouth, NH: Heineman Educational Books, 1986).
9. Goodman and Goodman, *A Whole-Language, Comprehensive-Centered Reading Program*, p. 4.
10. For another account of whole language learning, see D. Freeman, Y. Freeman, and R. Gonzalez, "Success for LEP Students: The Sunnyside Sheltered English Program," *TESOL Quarterly* 21 (1987), pp. 361-367.

Teacher Empowerment in a Social Context

by Michael Vavrus

Teacher empowerment was not in vogue ten years ago when I completed my research on teacher career stages and alienation and began working as the teacher-director of a parent-governed prekindergarten through sixth-grade school.¹ However, my desire to work for a school in which parents felt a direct sense of ownership—materially, intellectually, and spiritually—sprung from an intrinsic need to have control over my work as a teacher and avoid the alienating working conditions under which so many teachers must labor. My freedom as a teacher was limited primarily by my own imagination; when events in the school were not going the way I wished, I often only had to look in the mirror to find the source of the problem.

Although the *product* of schooling continues to be a subject of debate,² the parents for whom I had worked were not interested in standardized test scores and measures of potential economic productivity as outcomes of their children's schooling encounters. Instead, they sought integrated, holistic learning experiences in a caring, democratic atmosphere—a work environment that frees a teacher to create and develop a curriculum meeting both (a) the emotional and cognitive growth requirements of children and (b) the need by a teacher to have primary control over the organization and implementation of the school program. In such a setting, parents, children, and a teacher are experiencing empowerment, not alienation.

Teacher empowerment, however, is a new concept and experience within the public school reform movement, positively affecting only a relatively small number of teachers. Empowerment is the response to alienation; that is, its goal is to alter an administrative hierarchy that does not permit teachers' direct participation in the decisions impacting their work.³ Just as alienation must be placed within complex social relations that determine the work of teaching, so must empowerment. Without a holistic perspective of the broad social factors that interact with teacher labor, simplistic and misguided expectations, explanations, and solutions for alienation/empowerment will be promoted.

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Empowerment, in the fullest sense, is the response to teachers' alienation in the workplace. Full empowerment, then, must extend beyond personal satisfaction and address both the unequal power structure of the educational bureaucracy and the presumed goals of the educational process.

Satisfaction/burn-out do not equal empowerment/alienation

With hopeful anticipation, I began to read the feature articles on teacher empowerment in the Spring 1989 issue of *Holistic Education Review* and was pleased by M.E. Sweeney's introductory emphasis of placing empowerment in the context of participatory decision making.⁴ Although well intended, the opening articles prove to be somewhat misleading both conceptually and socially.

Job satisfaction studies historically have been more concerned with individual perceptions than with the nature of the work performed. Such studies can lead to individualistic sociobiological explanations of satisfaction independent of objective workplace conditions.⁵ J. Ainsworth's study of teacher satisfaction focuses on important higher order needs such as self-actualization and autonomy. But while her essay is correct to debunk job satisfaction research that focuses on measures of efficiency, it fails to acknowledge that an individual may report satisfaction or high morale yet still not be functioning as an empowered professional. Conversely, returning to my earlier described teaching experience, there were numerous occasions on which I would not have considered myself fully "satisfied" in my work, but the objective fact that I was empowered as a teacher was a constant. Perceptions do not always correlate with the actual material working atmosphere.

Taking what initially appears to be a humanistic approach, Ainsworth announces, "I resolved not to try to correlate any results with any aspect of 'productivity.'"⁶ By rejecting for good reasons traditional measures of productivity, her subjects' scores on higher order needs are left floating, not grounded to any concrete teaching and schooling experiences and outcomes beyond her personal speculations. Satisfaction and morale studies are just too nebulous to

provide a handle for making policy recommendations for the creation of empowering work sites. Educators who seek alternative visions must provide alternative accounts to productivity defined as standardized test scores or economic utility. But to discount productivity entirely is to overlook that all student-teacher encounters result in some kind of social product or outcome even if it cannot be quantified.

Within this genre, burn-out studies also focus on individual perceptions, thereby confounding the term *burn-out* with *alienation* in the absence of a structural analysis of the work of teaching. More appropriately, burn-out may be a *symptom* of alienating work conditions.⁷ Further limiting the usefulness of studies of satisfaction and burn-out is the existence of individuals who manage in alienating work environments to perceive themselves as satisfied or as not experiencing burn-out. As with satisfaction research, studies of burn-out use the individual for the unit of analysis—too often pointing to the misleading conclusion that the individual should focus only on intrapersonal attempts to alter his or her own state of satisfaction or burn-out, rather than also focusing on correcting oppressive working conditions.

With "natural teacher empowerment" S. Gilmour lures the reader into the idea that "letting go" in a positive Zen-like manner will transform teacher alienation. In fact, change is reduced to a process that apparently happens if the individual simply is imaginative and acts on new perceptions.⁸ I welcome her vision of an enlightened teaching staff informed by an awareness brought on through a meditative posture to daily encounters,⁹ but the social parameters within which one has to operate still must be identified explicitly and described concretely. As in the satisfaction and burn-out studies, Gilmour focuses on the individual teacher by stating that

"varying degrees of empowerment will fit for individuals at different stages of life."¹⁰ If empowerment is the process of overcoming alienation, then such reasoning suggests that different intensities of alienation, too, are acceptable for teachers. Unfortunately, the reality throughout the United States is that teachers are faced with principals who hold paternalistic attitudes toward them and who wish to control the type, extent, and manner in which teachers might become full partners as professionals in the decision-making process affecting all aspects of their labor.¹¹ R.S. Brandt, executive editor of the Association for Supervision and Curriculum Development, notes that school managers generally resist infringements on their power and support teacher participation based on "the degree of teacher discretion . . . determined not by institutional policy but by the generosity and goodwill of individual administrators."¹²

Hopeful calls for trust between teachers and administrators discount the existence of power within all social relations, including those in the schooling enterprise.¹³ If to empower is understood to mean to invest with power, then calls for "natural power" only serve to obfuscate the structural barriers limiting teachers' access to the power in controlling the nature of their work. Although natural power may be "a simple process,"¹⁴ empowerment in the political domain is a complex one and involves the struggle and commitment by teachers seeking to exercise pedagogical wisdom within the latitude generally granted someone with professional status.¹⁵ By confusing an intrapersonal notion of empowerment with the power-infused nature of the schooling production process, the current movement for teacher empowerment is rendered socially impotent.

A. Langberg briefly addresses the issue of power, but presents it only in the extreme of an ensuing

failure from a total power turnover to teachers. At this early stage of the current teacher empowerment movement, it appears that where teacher involvement in school-level decision making has been greatly expanded beyond the norm, teachers are recognizing that they do not want to be responsible for all decisions administrators traditionally handle, but just those that most directly impact their work as educators.¹⁶ The reality of the existence of power in social relations demands that any policies and procedures restricting the exercise of the pedagogical judgment of teachers must be acknowledged as alienating for teachers and as the major obstacles for teachers in attaining empowerment.

Preservice teachers enter their career with the anticipation of developing the whole child as well as with the expectation of participating in the decisions that affect their labor.¹⁷ Yet, in their teacher preparation programs, most teachers were never informed of the sociopolitical history and rationale of the bureaucratic arrangement of public schools, which contribute to the current alienating working conditions of teachers. Nor were they told that their ability to express their authenticity and creativity through the central vocational experience in their lives would be eroded by asymmetrical power relations that do not allow them to be full participants in their own work. Without confronting the nature of bureaucracy and power and the contradictions found within various calls for empowerment, especially as related to the development of holistic learning opportunities, discussions of teacher empowerment remain aloof from the material working conditions facing teachers each day.¹⁸

Collaboration and teacher empowerment

Once teachers are permitted to enter the public arena in which de-

isions about schooling are made, the nature of teacher empowerment shifts to the logistics of participatory decision making among teachers who traditionally work in isolation from their colleagues and rarely have the opportunity to discuss pedagogical issues of substance with fellow teachers. To the need for teachers to interact openly and collectively with other teachers, Langberg, Rich, and Sweeney suggest positive alternatives in the Spring 1989 issue of *Holistic Education Review*.¹⁹ Such varied perspectives on how teachers, through collaboration, may interpret their work comprise a critical dialogue within teacher empowerment—one in which teachers may name and overcome alienating work situations.

Rather than unquestioningly accepting authoritarian structures or retreating into privatized experiences of freedom, interpreting lived situations is a means for teachers to understand the meaning of teaching and schooling. Collaboration does not suggest predetermined responses to fixed relations among participants. "To collaborate," J.C. Conoley explains, "implies joint responsibility and action to accomplish a task. Further, collaborative relationships are nonhierarchical and are based on complementary skills and goals."²⁰ In such an arrangement, administrators no longer set the agenda for teachers, rather teachers determine it themselves.

As in phenomenological research, teachers become subjects of their work as opposed to being merely objects. Collaboration breaks down the concept of teacher as technocrat and opens up avenues for teachers to work critically as creative curriculum developers. In an atmosphere of dynamic decision making, the traditional outcomes and means of schooling are called into question and reformulated more in line with the humanistic goals teachers originally envisioned when they entered a teaching career. Profes-

sional accountability is substituted for bureaucratic accountability within the process of demystifying one-dimensional, linear, and social models of schooling.²¹

Empowered teacher/empowered student

Eventually, the public debate on teacher empowerment must attend to the product of schooling, including the kind of learning experiences provided to and instilled in students. Calls for tying school restructuring projects to measures of student learning, for example, are attempts to restrict empowering actions within the ideology of accountability, because learning in this instance is defined by the unholistic use of fragmented standardized tests. Empowered teachers must produce empowered students or risk perpetuating alienating schooling experiences for young people. Out of teacher empowerment grows empowered children who are perceived "as active, not only reactive, organisms. . . . [who are not] passive memorizers of educational scripts to which they make no original contribution, and which do not expand and enrich their day-to-day experiences."²²

To provide holistic learning opportunities for students involves the creation of alternative means for structuring public schools that eliminate alienating conditions for both teachers and students. The goal of schooling becomes the promotion of "human dignity" conceptions that are "judged against each other, and their ambiguities and contradictions in turn enrich their further assessment and development."²³ Through collaboration, teachers can address issues such as what it means to be a teacher seeking to enrich the whole child while infusing the curriculum with concepts of human dignity. This is neither a simple project nor an Utopian one.

Teacher empowerment holds the potential for transforming the public school and allowing holistic

practices to compete with utilitarian modes of instruction. The political *zeitgeist* of back-to-basics and lists of cultural things-to-know will not be overcome easily as schools continually are blamed for the economic weakness of multinational corporations. In national reports to improve schools, the plight of the alienated, unempowered teacher is revealed.²⁴ But to allow teachers the power as decision makers may pit the empowerment movement against vested political interests to maintain the status quo. However, a dent has been made in the belief system that considers the current goals and structuring of public schools as natural and normal. Support for teacher empowerment from concerned parents and citizens can widen this opportunity for teachers. Through this opening, teacher empowerment issues can expand the dialogue on what it means to educate the whole child in the social context of human dignity.

Notes

1. M. Vavrus, *The Relationship of Teacher Alienation to School Workplace Characteristics and Career Stages of Teachers* (Institute for Research on Teaching Research Series no. 36. East Lansing, MI: Michigan State University, 1979).
Created in the early 1970s by parents dissatisfied with the opportunities and authoritarian atmosphere of the local public school district, the Valley School is a private, "alternative" one-room school in a continuing ownership by parents of currently enrolled students. Located in Elkins, West Virginia, in the Potomac Highlands adjacent to the Monongahela National Forest, I was employed by the school from 1979 to 1982.
2. See "What to Teach . . . Reform Turns Finally to the Essential Question" *Education Week* (May 17, 1989), pp. 1, 8, 10.
3. G.I. Maeroff, *The Empowerment of Teachers: Overcoming the Crisis of Confidence* (New York: Teachers College Press, 1988); and M. Vavrus, "Alienation as the Conceptual Foundation for Incorporating Teacher Empowerment into the Teacher Education Knowledge Base," in *Proceedings to the Association of Independent Colleges of Teacher Education National Forum on Teacher Empowerment* (University Press of America, in press).
4. M.E. Sweeney, "Celebrating Teachers," *Holistic Education Review* 2, no. 1 (Spring 1989), p. 32.
5. R. Schacht, *Alienation* (Garden City, NY: Anchor Books, Doubleday & Company, 1970); R.D. Arvey, T.J. Bouchard, N.L. Segal, and L.M. Abraham, "Job Satisfaction: Environment and Genetic Components," *Journal of Applied Psychology* 74, no. 2 (1989), pp. 187-92; and J. Ainsworth, "Teachers' Higher Level Needs Satisfied," *Holistic Education Review* 2, no. 1 (Spring 1989), pp. 33-36.
6. *Ibid.*, p. 35.
7. A.G. Dworkin, *Teacher Burnout in the Public Schools* (Albany: State University of New York Press, 1987); and M. Vavrus, "Reconsidering Teacher Alienation: A Critique," *The Urban Review*, 19, no. 3 (1987), pp. 179-188.
8. S. Gilmour, "A Natural Approach to Teacher Empowerment," *Holistic Education Review* 2, no. 1 (Spring 1989), pp. 37-40.
9. I support the posture of the sacred warrior: "For the warrior, every moment is a challenge to be genuine, and each challenge is delightful. When you let go properly, you can relax and enjoy the challenge." Chogyam Trungpa, *Shambhala, The Sacred Path of the Warrior* (Boulder, CO: Shambhala Publications, 1984), p. 79.
10. Gilmour, "A Natural Approach," p. 38.
11. Maeroff, "The Empowerment of Teachers."
12. R.S. Brandt, "The Reasons for Reforming Schools," in *Schooling for Tomorrow: Directing Reforms to Issues That Count*, edited by T.J. Sergiovanni and J.H. Moore (Boston: Allyn and Bacon, 1989), pp. 378-382.
13. Gilmour, "A Natural Approach," p. 39; and C.H. Cherryholmes, *Power and Criticism: Poststructural Investigations in Education* (New York: Teachers College Press, 1988).
14. Gilmour, "A Natural Approach," p. 38.
15. For longitudinal perspectives on the professional status of teachers, see W. Waller, *The Sociology of Teaching* (New York: Wiley, 1961 [reprint from 1932]); D. Lortie, "The Balance of Control and Autonomy in Elementary School Teaching," in *The Semi-Professions and Their Organizations: Teachers, Nurses, Social Workers*, edited by A. Etzioni (New York: Free Press, 1969), pp. 1-53; and L. Darling-Hammond, "Policy and Professionalism," in *Building a Professional Culture in Schools*, edited by A. Lieberman (New York: Teachers College Press, 1988) pp. 55-77.
16. A. Langberg, "Key Issues for Teacher Empowerment," *Holistic Education Review* 2, no. 1 (Spring 1989), pp. 40-42; and Maeroff, "The Sky's the Limit," *Education Week* (December 2, 1987), pp. 1, 18-19.
17. K.R. Howey and N.I. Zimpher, "Program Change and Assessment in Teacher Education," a paper presented at the Annual Conference of the American Association of Colleges of Teacher Education in Anaheim, CA, March 1, 1989; M.W. McLaughlin, R.C. Pfeifer, D. Swanson-Owens, and S.M. Yee, "Why Teachers Won't Teach," *Phi Delta Kappan* (February 1986), pp. 420-426; and Vavrus, *The Relationship of Teacher Alienation*.
18. M. Vavrus, "Contradictions Within Teacher Empowerment and School Restructuring for the Development of Holistic Learning Environments," *Practice: The Journal of Politics, Economics, Psychology, Sociology, & Culture* (forthcoming).
19. Langberg, "Key Issues for Teacher Empowerment"; J.M. Rich, "Self-Renewal as Faculty Development," *Holistic Education Review* 2, no. 1 (Spring 1989), pp. 44-47; and M.E. Sweeney, "Conflict, Group Processing Skills and Decision Making: Implications for Teachers," *Holistic Education Review* 2, no. 1 (Spring 1989), pp. 48-51.
20. J.C. Conoley, "Professional Communication and Collaboration among Educators," in *Knowledge Base for the Beginning Teacher*, edited by M.C. Reynolds (Oxford, U.K.: Pergamon Press, 1989), pp. 245-254.
21. A. Wise, "Professional Teaching: A New Paradigm for the Management of Education," in *Schooling for Tomorrow: Directing Reforms to Issues That Count*, edited by T.J. Sergiovanni and J.H. Moore (Boston, Allyn and Bacon, 1989), pp. 301-310.
22. M. Yonemura, "Reflections on Teacher Empowerment and Teacher Education," in *Teaching, Teachers, and Teacher Education*, edited by M. Okazawa-Rey, J. Anderson, and R. Traver, (Cambridge, MA: Harvard Educational Review, 1987), pp. 281, 277.
23. Cherryholmes, *Power and Criticism*, p. 176.
24. *Tomorrow's Teachers: A Report of the Holmes Group* (East Lansing, MI: Holmes Group, 1986); and *A Nation Prepared: Teachers for the 21st Century* (Washington, D.C.: The Carnegie Forum on Education and the Economy's Task Force on Teaching as a Profession, 1986).

Wholier Than Thou: A Response to Miller

by Guy J. Manaster

Editor's note: Dr. Guy J. Manaster's essay "Educating for Democracy: The 4R System" appeared in the Spring 1989 issue of *Holistic Education Review* (Vol. 2 No. 1). Following the article there appeared a critique by Review editor Ron Miller, to which Dr. Manaster was invited to respond. Here is his rejoinder. We invite readers to read the original essay and to join our dialogue.

In this response to Ron Miller's "Comments on Educating for Democracy: The 4R System," I want to correct specific misperceptions of the 4R system, which probably resulted from a lack of clarity and an attempt at brevity in my original article, and then argue his criticisms of the 4R system as they relate to democratic schools and democracies and to a possible fallacy in the, or a, conceptualization of holistic education.

Under an umbrella criticism that 4R "is not truly holistic," Miller summarizes his points, saying that holistic education, and therefore 4R education, if it is to be considered holistic, must:

1. "raise the issue of social and political barriers to true democracy,"
2. "nurture the *integration* of the human personality and allow for the expression of feelings even when it is not 'efficient' to do so," and
3. "go beyond the authoritarian and regimented curriculum of conventional schooling."

A major point of my article was that the 4R system promotes the practice of democracy in the school

and thereby educates students, as well the school's other citizens—administrators, teachers, staff, and parents—in democratic living outside and beyond the school. Issues of equality and representation are met by virtue of the Parents-Teachers-Students Association (PTSA). They are constructively encountered in the democratically run homerooms. The "isms," racism, sexism, capitalism, and so on, can be dealt with democratically as they arise as pertinent issues within the school; the system is in place to do so. A number of successful 4R schools were instituted as magnet schools for purposes of desegregation. Whether injustices and inequities of the greater society, as they exist beyond the school, not only as they impinge on the school, are dealt with as curricular issues or as social action issues, would depend, it seems to me, on the persons in the school, their perspectives, interests, and attitudes, and their freedom with and within the curriculum.

To amplify on this implicates Miller's third point in the broadest sense. "The authoritarian and regimented curriculum of conventional schooling, along with all its bureaucratic trappings" limits the breadth and depth, the wholeness and potential of schools and education, and thereby necessarily limits raising "the social and political barriers to true democracy." By using existent curricula within the bureaucratic structures of conventional school systems, the 4R system, in those instances, may be limited and less whole and less holistic than it might be. However, a healthy percentage of the 4R schools are in place in conventional school systems, and, I believe, they have been adopted and

included greatly because the system does not demand changes in curriculum. The "periods" for class are shorter and variable, tailored to learning units, but the content is as prescribed by the school district. This is not to say that this situation is ideal, but that it is very practical, and it is preferable to keeping 4R schools outside of the major, albeit conventional, public school systems because of curriculum issues. It appears that the independent, private 4R schools are much more innovative in curriculum, or as innovative as they can be and still be accredited by their various school and state authorities. In this journal, to say the following feels more like a confession than a simple statement: The creators and supporters of the 4R system seem to have been less interested in curriculum reform than in school structure and organizational reform and in instituting the 4R system.

Rather than accept as criticism Miller's comparison of my position and Horace Mann's, that 4R (or education in general) is the answer to societal problems, I would prefer to accept his comparison as praise for the 4R system and for Ray Corsini's intention in developing the system, "to change the world." Personally, I do not see the 4R system as *the* answer to society's problems, but I do see it as directly addressing deficiencies in our society and democracy by increasing, as 4R schools increase, the number of citizens prepared to participate and alter our democracy. As idealistic as I might be, I cannot envision any single answer to social-cultural problems.

Finally let's look at Miller's second point: the integration of the human personality allowing for

the expression of feelings even when it is not "efficient" to do so. Miller grants that the 4R system attends to intellectual, emotional, physical, and creative aspects of persons, and I would add the intuitive also, though probably not the spiritual in public schools. However, he asserts, as I read it, not only that young and older people should be able to be in touch with all aspects of themselves at all times, but should also, presumably in school as anywhere else, be able to express these aspects at all times. I cannot accept the latter portion of this point, and I believe that the 4R system is designed to deal with and enable the first portion. Moreover, I think it crucial that humans seek to be aware of, in touch with, all of their feelings and abilities and equally crucial that humans be able to determine their behavior appropriately for all situations and themselves. This latter ability does not, in my judgement, do "violence to one's integrated wholeness" but, rather, accommodates one's wholeness without doing violence to one's survival, at any and all levels.

By mentioning *survival* I imagine I would be again, in Miller's view, rational, practical, and efficient. Some examples may illustrate my point. At a basic level, a person alone in a jungle confronted by a lion might, seemingly, be over-

come by fear. If the person cannot "shut off" the emotional "component" of himself or herself, the person will be unable to find a means of escape or operate a weapon. At an equally basic level, in the midst of making love, a person who evaluates his performance may not be able to perform at all. We might speak of behavior as being socially appropriate and thereby promoting social survival. At this level, it would appear that in all cultures through history, some behaviors are permissible at some times and not at other times. Funny things can occur at funerals, but we stifle our laughter out of respect for others. We could cry when we run into a friend who is very ill, but we don't, and probably should not. And lastly, at the level of efficiency, ours and others, some behaviors are not conducive to completion and success. The day of the test, of the match, of the meeting, of the game, our negative feelings have to be overcome and positive feelings let loose in order to participate and do well.

To survive and to fit in and to cooperate, and also to compete, we need all of ourselves available as well as our ability to use our strengths and abilities in each situation as best serves us, and others. Adler spoke of "the common sense of human living." This notion was involved in the response to each

of Miller's criticisms. If the 4R system is not holistic according to Miller's definition, it is because as it has been instituted in differing school systems in different countries it has been practical and commonsensical. Under some conditions Miller's curriculum objection has and can be met. Under some conditions Miller's notions of raising political and social barriers to democracy beyond the school, through the school, might be met. However, Miller's presentation of integrated wholeness as it fosters and allows behavior that is contrary to demands of situations and survival and not within the "common sense" would not be accepted. The 4R system fosters and allows children to behave within a common sense that limits what is appropriate behavior in some situations, that allows the child to discriminate between useful and useless behavior, and which does not limit development of the full breadth of personal behaviors. Within Miller's critique, I have tried to show that the 4R system is less radical and less comprehensive, but more practical and sensible, and as holistic as (maybe more holistic than) Miller's notion of holistic, because it is and can be in interaction with the world around it. These are the ways kids need to learn and be in order to become full, participating democratic citizens of this society and the world.

FEATURE SECTION: Environmental Education

The Way of Ecopiety: Holistic Education for Ecological Ethics

by Hwa Yol Jung and Petee Jung

All in each.
Each in all.

—R.D. Laing¹

The problem of Nature is the problem of human life.

—D.T. Suzuki²

Not only is the earth as an ecosystem at the brink of collapse, but also humankind is “at the edge of history.”³ We must recognize that *it is all our own doing* and that we can blame nothing else except ourselves for the sad happening. The Canadian sociologist John O’Neill captured succinctly our present ecological predicament when he quipped that ours may be the first human civilization that thinks of itself as the last.⁴ There is sufficient reason for today’s ecological crisis to be regarded as our “ultimate concern.” It is truly an existential question,

because it is the question simply of “to be” or “not to be.”

While we were writing a joint paper on the matters of ecology and economic development for an international conference on futuristics in Beijing last September, we received a copy of the first issue of *Holistic Education Review*. In reading Ron Miller’s editorial essay “Holistic Education: A Radical Perspective,” the following suggestive passage caught our eyes, which expresses quintessentially what we call “the way of ecopiety”: “*the holistic approach is essentially an ecological approach.*” Then he continues:

Respect for the depths of the human being necessarily involves respect for Nature and for the Earth: it is a reverence for all life. Holistic education challenges the materialistic, mechanistic, intellectualistic world view of the industrial age, for as long as we treat the Earth as a resource to be exploited and controlled, so we will treat our children.⁵

Hwa Yol and Petee Jung are husband and wife. Ecological ethics is for them a passionate avocation, and together they have published extensively on the subject. They believe now more than ever before that the education of the young is the key to save the earth and preserve the future of humanity. Hwa Yol teaches political philosophy at Moravian College, Bethlehem, Pennsylvania, and Petee teaches mathematics at Albright College, Reading.

This article provides a philosophical rationale for environmental education. Holistic education belongs to a larger, countercultural movement that is challenging basic assumptions of the industrial age. Here, the differences between an anthropocentric, economic world view and a holistic, ecological approach are described clearly.

Miller's passage happily coincides with our own holistic view of ecology, the way of ecopiety, or "ecophilosophy." To speak of "holistic ecology" is somewhat redundant, because ecology is by necessity holistic. Viewed as such, the mode of our inquiry is integrative and synthetic rather than analytical and fragmentary. Our hope for saving the earth rests squarely on teaching our young generations to be "ecophilosophically minded," that is, holistically minded. The future belongs to the young; the young shall inherit the future. The way of ecopiety as a *new ethics for the future* also belongs to the young. To teach ecopiety is to teach the future as history in the hope of awakening or enlightening the young mind to this new way of life.

The present crisis

Our ecological prospect is dismal because we have persistently remained tone-deaf to our earthly habitat—the one and only earth. There is the lingering and uneasy premonition that we are doing "too little too late." The task of sustaining our earth may be likened to repairing a torn spider's web with our fingers—to borrow the expressive phrase of the late British philosopher Ludwig Wittgenstein.⁶

The year 1972 was a momentous one for the ecology movement. First, the Club of Rome issued the morbid or, according to some of its most severe critics, "doomsday" forecast on the human prospect. It warned of an impending catastrophe and called for "a Copernican revolution of the mind," that is, a paradigmatic turn in our way of life for the sake of ensuring the future of humanity in the climate of accelerating industrialization, rapid population growth, widespread malnutrition, depletion of nonrenewable resources, and a deteriorating environment.⁷ Lester R. Brown's Worldwatch Institute has recently issued another equally disheartening report on the state of humanity and the earth.⁸ The "vital signs" of the earth are no

better than when the Club of Rome's first report was issued seventeen years ago. By now the language of such a report is too familiar to us, too commonplace for us: *we must act now before it is too late.*

Second, there was the United Nations Conference on the Human Environment in Stockholm. We personally participated in and witnessed the conference. Although its historic significance can never be minimized, for the most part it was a series of diatribes, particularly between the "developed" and "developing" nations as to who gets what, when, and how. Compared with the 1972 Stockholm Conference, the 1987 report *Our Common Future* by the UN World Commission on Environment and Development represents a giant stride in calling for international cooperation to achieve the equity of economic development between rich and poor nations.⁹ It speaks of "conserving wild beings" for nonutilitarian reasons such as "moral, ethical, cultural, aesthetic, and purely scientific."¹⁰ Ultimately, it calls for a difficult if not impossible balance between economic development and environmental requirements. Yet it still emphasizes the idea of "sustainable development," which is defined as humanity's ability to meet and ensure the economic needs for the present without compromising or sacrificing those of future generations. It is still couched in the conventional language of "economic man" and fails to overcome and overturn our economic mentality and obsession.

Now consider the third momentous event—the silent revolution of 1972—the birth of "deep ecology" or "ecophilosophy" as an academic inquiry. By it, the Norwegian philosopher Arne Naess sought to promote the intrinsic connection between the ecology movement and philosophy as an encompassing discipline. We quote his philosophical language fully:

In so far as ecology movements deserve our attention, they are *ecophilosophical* rather than ecological. Ecology is a *limited* science which makes *use* of scientific methods. Philosophy is the most general forum of debate on fundamentals, descriptive as well as prescriptive, and political philosophy is one of its subsections. By an *ecosophy* I mean a philosophy of ecological harmony or equilibrium. A philosophy as a kind of *sofia* wisdom, is openly normative, it contains *both* norms, rules, postulates, value priority announcements *and* hypotheses concerning the state of affairs in our universe. Wisdom is policy wisdom, prescription, not only scientific description and prediction.¹¹

The way of ecopiety fashions the same sentiment as Naess's "*sofiawisdom*," for which philosophy is not abstract speculation enjoyed by a privileged few cloaked in a specialized language. It is the natural ability of every human being as *Homo sapiens* to act as a moral being in his or her multiple relationships with all of the other earthly creatures and things.

By ecopiety, we wish to convey a *deeply abiding sense of care and reverence* for coexistence among all beings and things whether they be human or not. In a serene mood, the American philosopher Henry G. Bugbee, Jr., speaks of the same idea as "the sacrament of coexistence" and movingly states in *The Inward Morning* that "we all stand only together, not only men, but all things. To abandon things, and to abandon each other, is to be lost."¹² "Piety" refers to the *absolute reciprocity of giving and receiving* that is at once mental and bodily. To echo the veritable voice of Martin Buber in *I and Thou*, where there is no reciprocity or social process, there is no reality.¹³

Let us explore just several of the reasons for coining the term *ecopiety*.

Ecopiety

First and foremost, the idea of ecopiety is meant to be holistic and synchronistic as opposed to reductionistic and fragmentary, thereby avoiding intellectual and disciplin-

ary compartmentalization.¹⁴ It is based on the fundamental idea that everything is related to everything else in a given whole—earth or cosmos. Barry Commoner, who is one of the most astute ecological thinkers of our time, calls it “the first law of ecology.”¹⁵

According to the Chinese oracular tradition of the *I Ching* (Book of Changes), “synchronicity” is the first principle of the universe that signifies the acausal, coincidental interconnectedness of all cosmic elements, large or small. The following passage from the ancient book of Taoism *Tao Te Ching* expresses the interconnected continuum of the four cosmological elements:

In the universe we have four great-
nesses, and man is but one.
Man is in accordance with earth.
Earth is in accordance with heaven.
Heaven is in accordance with Tao.
Tao is in accordance with that which
is.¹⁶

In his classic work on ecology, *The Closing Circle*, Commoner argues that the fragmentary and reductionistic approach of our scientific communities and sociopolitical-economic institutions brought about environmental degradation because it is inappropriate and inadequate to deal with the whole of nature, every component of which is connected with every other. By reductionism Commoner has in mind the mainstream, established method and practice of modern scientific research, which holds that the “effective understanding of a complex system can be achieved by investigating the properties of its isolated parts.”¹⁷ Rachel Carson’s *Silent Spring* demonstrated effectively and in a crusading spirit that the use of DDT was the exemplary case for the disastrous myopia of this fragmentary and reductionistic way of thinking and doing.¹⁸ The wrong-headedness of reductionism is summed up in the Hindu parable of five blind men, each of whom touches a part of an elephant and thinks that it is the whole.

In the world in which we are generally accustomed to make sense out of everything by *analysis*, that is, dissecting everything into its fragmentary parts for our “rational” understanding in scientific research as well as in departmentalized and compartmentalized schools, the holistic way of thinking and doing is very hard to grasp. For example, we are somewhat amused by the following view of ecology as a specialized discipline of science by F. David Peat and David Bohm, both of whom are known for their contribution to holistic thinking:

Many people think that solving these sorts of problems [global instabilities] is only a matter of studying ecology or some other specialty. Certainly ecology does begin to acknowledge the complex dependence of each activity on the whole context. But really the problem is as much one of economics as it is of ecology, and this leads on to politics, and to the structure of society and the nature of human beings in general.¹⁹

Second, being holistic, the way of ecopiety intends to *broaden* the established conception of morality or ethics, which we contend is limited only to governing human relationships. The incomparable American ecophilosopher Aldo Leopold put it eloquently:

There is as yet no ethic dealing with man’s relation to land and to the animals and plants which grow upon it. Land, like Odysseus’ slave-girls, is still property. The land-relation is still strictly economic, entailing privileges but not obligations.²⁰

The way of ecopiety is encompassing or holistic in redefining the conception of the good life. As the health of the earth depends on the holistic way of thinking and doing, we propose ecopiety as the regulative principle of our conduct that would incorporate our relationships with nonhuman beings and things on earth as well as a multiple nexus of our relationships with one another. In the “gumptious” language of Robert M. Pirsig, ecopiety is a “Quality,” “Gestalt,” or

“Tao” term.²¹ Here is our simple equation:

$$\text{ECOPIETY} = \text{HOMOPIETY} + \text{GEOPIETY}$$

Homopiety is concerned with the “careful” governance of multiple relationships among humans, and geopiety deals with relationships between humans and nonhuman things. Leopold’s “land ethic” epitomizes what we call geopiety when it “simply enlarges the boundaries of the community to include soils, waters, plants, and animals, or collectively: the land.”²² Defined as such, geopiety includes our reverence for living things (i.e., biopiety).

Homopiety and geopiety are the two distinguishable but not separable components of ecopiety and may be likened to the distinction between male and female in the human species. In other words, ecopiety integrates the *yang* of homopiety and the *yin* of geopiety as complementary. Therefore, the way of ecopiety is in stark contrast to the inadequate conventional conception of ethics, which prescribes only interhuman relationships to the exclusion of nonhuman beings and things. While conventional ethics uses the language of *exclusion*, the way of ecopiety is governed by the language of *inclusion*.

Viewed as such, the way of ecopiety is truly subversive in the etymological sense of the term in that it attempts to uproot conventional wisdom and seek *radical changes from the bottom up* in our thinking and doing. It calls for a countercultural conversion. While speaking of subverting, overturning, or transforming, it is well to learn from—and then teach our youngsters—Edward de Bono’s psychology of “lateral thinking” as a creative way of thinking. He intimates that when we get “stuck,” we should dig a new hole instead of digging the same hole deeper and deeper (i.e., “linear thinking”).²³ The American philosopher Erazim Kohak sums up our *in-*

clusionist language of ecopiety: "To recover the moral sense of our humanity, we would need to recover first the moral sense of nature."²⁴ Indeed, holism is a new way of thinking and doing—an "ecotopian" vision.²⁵

Third, the new ethics of ecopiety is a consummate attempt to overcome the arrogance of the human-centered world-view (known usually as "anthropocentrism," often as "humanism," and sometimes as "speciesism") at one extreme, and the opposite view that humankind is merely a part of nature (i.e., naturalism) at the other. The very appearance of *Homo sapiens* spelled trouble for the entire earth. In *The Firmament of Time*, the ecopoet Loren Eiseley describes human arrogance from the very moment of our appearance on this earth:

It is with the coming of man that a vast hole seems to open in nature, a vast black whirlpool spinning faster and faster, consuming flesh, stones, soil, minerals, sucking down the lightning, wrenching power from the atom, until the ancient sounds of nature are drowned in the cacophony of something which is no longer nature, something instead which is loose and knocking at the world's heart, something demonic and no longer planned—escaped it may be—spewed out of nature, contending in a final giant's game against its master.²⁶

When geopiety is woven into the fabric of ecopiety, anthropocentrism is subverted and overturned because there is no magnification of the human in the universal order of things. What "domination" and "utility" are to anthropocentrism, "harmony" and "reverence" are to the ethics of ecopiety. When, however, homopiety is distinguished but not separated from geopiety, the ethics of ecopiety is judicious in affirming that humanity has a *distinct* place among other beings and things and is not merely a part of nature. Humanity is a *caretaker* of all things.²⁷ Nevertheless, the differentiation of humans from nonhumans only admits difference within a unified bond: a pluralistic, "organic" unity, or *harmony which*

is the orchestration of many different things. After all, harmony is first polyphonic.

Fourth, the idea of ecopiety is intended to be *ecumenical*: it aims to globalize ecological ideas between East and West, North and South, ancient and modern, "primitive" and "civilized." It is proposed as a movement of *confluence* or cross-fertilization in terms of both spatial and temporal cross-sections; it is a fused movement of spatial and temporal horizons. By countering the entirely one-sided Eurocentric influence on the entire world today, it intends to nourish the Indian philosopher Rabindranath Tagore's vision of "universal man."²⁸

Meeting of West and East

Since our participation in the 1972 Stockholm conference, we have been concerned with the promotion of "ecological ecumenism" as a challenge to those intellectuals who hold that non-Western ideas such as Zen are inapplicable to the environmental crisis, which is Western in origin: "That's all very well, but it won't work for us in the West; it's Oriental." The point we try to make here is that the ecological crisis is global, and as such it has no geographical boundaries. Leopold's ecopoetics

ernization"—the ideology of transforming the non-Western world *exclusively* on the Western model of science, technology, and industrialization in the grand design of progress. It is high time, we think, for the Eastern ideas of ecopiety to be vigorously propagated in globalizing our ecological conscience. It involves in part the recycling of the old wisdom of ancient China particularly in the form of Taoism and Ch'an (Zen) Buddhism as a wellspring of ecological ideas. The eleventh-century Neo-Confucian thinker Chan Tsai provides us with the quintessential formula of ecopiety when he wrote:

Heaven is my father, and Earth is my mother and even such a small creature as I find[s] an intimate place in their midst.

Therefore that which fills the universe I regard as my body and that which directs the universe I consider as my nature.

All people are my brothers and sisters, and all things are my companions.³⁰

Ancient Taoist geopiety takes aesthetic delight in the splendor of nature as wild, simple, and small, that is, in the intrinsic beauty of nature that captures our reverential gaze and poetic imagination, whether in a young, soft bamboo shoot shooting straight up from

What "domination" and "utility" are to anthropocentrism, "harmony" and "reverence" are to the ethics of ecopiety.

in an almanac of wildlife in the North American landscape—plants, trees, birds, animals, rivers, prairies, and marshes—arouse in his readers the same reverential and aesthetic mood that Taoism and Zen, for example, inspire: They equally promote the idea of "thinking like a mountain."²⁹

The confluence of ecological ideas is encouraged and promoted specially to subvert and reverse the current one-way ideology of "mod-

the spring ground in the protective shade, a thin blade of grass, a butterfly with dancing wings, a restful dragonfly on a leaf in a calm pond, a spider's web sparkling with dew in the early summer morning, a cricket singing in the autumn evening, or the majestic beauty of a soaring mountain top with snow in winter. In this surrounding, the human is truly a "cosmion" in silent communion with nature and the cosmos. The ancient Taoist

Chuang Tzu sums up this serene mood: "Heaven and earth were born at the same time I was, and the thousand things [i.e., nature] are one with me."³¹

This serene mood of Taoism is not monopolized by Chuang Tzu. It abounds everywhere. In his dying hours, the great North American Indian Crowfoot also spoke of the ephemeral nature of life and the humility of being human: "It [life] is the flash of a firefly in the night. It is the breath of a buffalo in the winter time. It is the little shadow which runs across the grass and loses itself in the Sunset."³²

Fifth and last, the most radical part of ecopiety is the replacement of "economic man" with "ecologi-

the ethics of "man the producer" (*Homo faber*), "work ethics," economic growth, abundance, affluence, and mass consumption. The obsession with "having" more and more things remains a commonplace and widespread (i.e., universal) virtue. As he is fueled by the motives of utility for the purpose of gaining three Big Cs—Consumption, Convenience, and Comfort—"economic man" is the creature who is driven to insatiable desire to have more and more things and goods.

John Locke shaped the ideological direction of our modern world, both capitalist and socialist, and the invention of "economic man." He asserted the primacy and ascendancy of the economic over the

human labor is called by Locke "waste," builds the society of acquisitive individuals or "economic men." In the end, Lockean possessive individualism incorporates the antagonistic relationships between human and human on the one hand and between human and nature on the other. The possessive individualist in the Lockean tradition is principally "self-assertive" in dealing with other men, other women, and other things.

Moreover, science and technology are indispensable for the constitution of "economic man" and have been the backbone of industrial civilization. It was Locke's compatriot Francis Bacon, more than anyone else, who engendered the popular ethos of the conquest and utility of nature by way of science and technology.³⁵ By increasing knowledge through experiment or, to use Bacon's phrase, "the inquisition of nature," humanity is capable of extending its domination over nature. He envisioned *utility* as the rationale for overcoming the bondage of necessities and increasing the happiness of humanity.

The basic framework of modern technology as instrumental was laid down by Bacon when he identified knowledge with power. The happiness of "economic man" depends on industrial civilization, which is technologically centered. When in 1982 our popular magazine *Time* selected a machine as the "man of the year," technology certainly trespassed its boundary as instrument. Now it has definitely become totalizing, one-dimensional, planetary, and terrifyingly banal and normalizing. Enough is enough. No wonder some have already invoked the uncommon judicial principle that technology is guilty until proven innocent! Once technological rationality takes over everything we do and think, the purpose of human action itself becomes reduced to the calculation of the *most efficient means* of achieving its goals, whereby ends are subverted by means. Nothing else

Once technological rationality takes over everything we do and think, the purpose of human action itself becomes reduced to the calculation of the most efficient means of achieving its goals, whereby ends are subverted by means.

cal man." It is the idea that the end of "economic man" is the very beginning of "ecological man." In no way are we denying the importance of economic activity, but we insist that our economic activity should be subordinated to the overall social purpose for which it serves. In this regard, we are in good company with R.H. Tawney, who spoke vehemently against the "acquisitive society" of our time.³³ The replacement of "economic man" with "ecological man" would draw the strongest resistance and opposition because it affects most radically and directly our lifestyle. For the same reason, we still doggedly cling to "business-as-usual," despite the stern and repeated warnings about the impending ecological catastrophe. We still define the good life primarily in terms of "economic man"—

other human life-activities that reversed the long-established Western tradition of the primacy of politics over economics since the time of Plato and Aristotle in ancient Greece. For Locke, the sole function of government or politics is the protection and preservation of private property. For the first time in Western history, in Locke's view there is a conscious integration of individualism and possessiveness: Locke is the "possessive individualist" par excellence—to borrow the characterization of the late Canadian political theorist C.B. Macpherson.³⁴ For Locke, the concept of human as laborer or exploiter of nature is necessary for the acquisition of private property and the accumulation of wealth. The utility of labor and industry in exploiting nature or the land, which, when uncultivated by

but *efficiency*, which is also the rationality of "economic man," becomes the norm of everything we do in technocratic society.

Chuang Tzu was prophetic in warning us long ago that one who works like a machine grows his heart like a machine. So we might say that he was worried about humankind becoming a small cog in the organizational machinery of efficiency. The science of economics is dismal because, preoccupied with the maximization of efficiency, it can no longer be called a moral science. Worst of all, "economic man" is irreverent to everything both natural and fabricated. By devouring everything "natural" in his way, he becomes the "earth eater."³⁶ Paradoxically, this "earth eater" is not even a decent materialist, because garbage dumps and automobile junkyards, strip-mined lands, lakes, rivers, seashores, and oceans turned into cesspools exemplify profane wastefulness and an irreverent attitude toward other living creatures and nonliving things on earth, *including of course his own artifacts*.

Beyond the economic age

Out of the increasing concern with our future, our "common future" in recent decades, there has been much talk about the coming of "post-industrial" man, society, and civilization. Likewise, we could speak of "post-economic" man. Robert L. Heilbroner—one of those rare visionaries who talked about the future as history and extended his insights beyond the disciplinary fences of economics and economic history—observed cogently the phenomenon of "post-industrialism" in one of the most widely read texts on "the human prospect":

Whether we are unable to sustain growth or unable to tolerate it, there can be no doubt that a radically different future beckons. In either eventuality it seems beyond dispute that the present orientation of society must change. In place of the long-established encouragement of industrial

production must come its careful restriction and long-term diminution within society. In place of prodigalities of consumption must come new frugal attitudes. In these and other ways, the "post-industrial" society of the future is apt to be as different from present-day industrial society as the latter was from its pre-industrial precursor. . . . It is . . . possible that a post-industrial society would also turn in the direction of many pre-industrial societies—toward the exploration of inner states of experience rather than the outer world of fact and material accomplishment. Tradition and ritual, the pillars of life in virtually all societies other than those of an industrial character, would probably once again assert their ancient claims as the guide to and solace for life. The struggle for individual achievement, especially for material ends, is likely to give way to the acceptance of communally organized and ordained roles.³⁷

The sociological futurist Daniel Bell, one of the most influential intellectuals in America today, has also been forecasting the shape of "post-industrial" civilization where, unlike the preceding stages of civilization, humans play neither games against nature (for mere survival) nor games against fabricated nature.³⁸ Instead, we play *games between persons*. Bell's "new man" in the "post-industrial" age will be "sociological man." Unfortunately, Bell fails to specify our interaction with nature as a biotic community. In spite of the fact that "ecology" and "economics," both etymologically and in reality, are familial, interrelated terms, he focuses only on homopiety and excludes geopiety as the other part of ecopiety and as the other, complementary side of homopiety.

Moreover, Bell's vision is blurred by the unexamined presupposition—not unlike that of Marx in the Enlightenment tradition—that economic abundance or affluence is a precondition of "post-industrial" civilization as a movement "from necessity to freedom." In essence, Bell fails to deal with the question of how we may and ought to play interpersonal games in the

age of scarcity, that is, in terms of the *economics of scarcity*. So his promise of "post-industrial" civilization, like the promise of "economism" and "developmentalism," will be a false one, another broken promise or promise that may never be fulfilled.

In summation, self-professed "post-industrialists" by and large are not radical enough. Most fail to invent an "alternate future," a countercultural future in which ecopiety includes geopiety as well as homopiety. That is, a radically new future must be defined holistically. By so doing, the invention of this counterculture will come to terms with the age of scarcity. Here the economics of scarcity is the ineluctable fact of life and as such forces us to redefine what the good life is. Whatever other ingredients it may contain, the good life cannot be defined primarily in terms of the spiral of material abundance and affluent consumption as we know and expect it today. As Erich Fromm puts it, "to have" is *not* "to be" or "I am not what I have," although it is needless to emphasize that the former is prerequisite to the latter.³⁹

The economics of scarcity on an entropic scale⁴⁰ has one, and only one, injunction: *to ecologize is to economize and share scarce resources*, to live the life of simplicity and frugality that would once again make "ecology" and "economics" belong to the same conceptual household (*oikos*). The idea of ecopiety is perfectly compatible with the idea of thinking "small," doing "small." It echoes that incomparable voice of the late E.F. Schumacher that "small is beautiful," indeed.⁴¹

The Japanese in particular enjoy and take delight in small things, they take seriously the idea that "small is beautiful." It is no accident, we think, that the Japanese who adopted Zen Buddhism from China and enjoy cultivating *bonsai* also invented and write *haiku* and excel in producing small cars, electronics, and microchips. By read-

ing the *haiku*, the young learn to nurture their sense of respect for nature, because the subjects of *haiku* are invariably small living creatures in nature. William Blake was also delighted with the idea of "small is beautiful" when he wrote the first stanza of his "Auguries of Innocence":

To see a world in a grain of sand
And a Heaven in a wild flower,
Hold infinity in the palm of your
hand
And Eternity in an hour.⁴²

We hope that the day may come, the sooner the better, when the iconoclastic word *ecopiety* becomes a "household" word, that is, when it becomes the new ethical canon of the whole globe.⁴³

Notes

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27. The meaning of care is thoughtfully explored by Milton Mayeroff in *On Caring* (New York: Harper and Row, 1971).
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40. For a discussion of entropy as opposed to progress as the basis of a new world-view, see Jeremy Rifkin, *Entropy* (New York: Viking Press, 1980).
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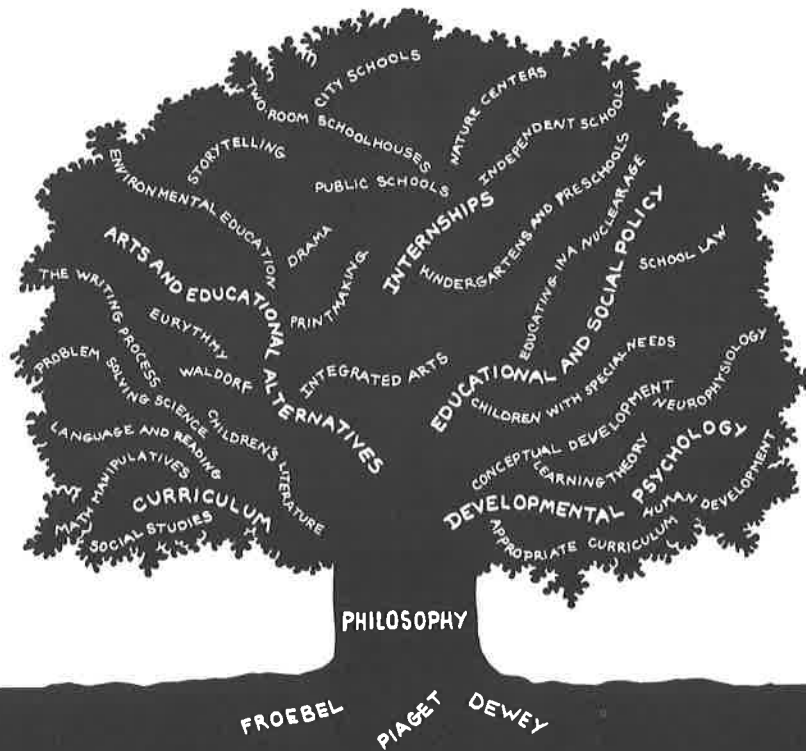
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Walden Within

by Clement Mehlman

Introduction

I have come to believe that students experience as curriculum what the teacher is doing inwardly and spiritually. My childhood in rural Lunenburg County, Nova Scotia, was close to the land and filled with images that parallel the New England of Robert Frost: newborn calves, the bleak and stubbled fields of winter, fenced pasture land, and natural springs in springtime. My flirtation with academics for several decades called me from the land, but a decade ago I began stopping by Ripton, Vermont, and Concord, Massachusetts, during summer holidays. Two moments are etched in my memory. One is a late morning walk on the top of Breadloaf Mountain in Ripton, past the Nobel farm, up the grassy path "that wanted wear," along a stone fence as in "Mending Wall" to the cottage where Frost frequently went to be alone and to write. Its screened-in verandah, its unpainted and weather-beaten boards, its deserted and decaying appearance, its view of "five mountain ranges deep into Vermont" helped me to enter more deeply into the life and work of Frost. The second memory is of an early morning walk at Walden Pond in a people-less woods, a deliberate effort to get but a glimpse of what Henry might have seen and heard. Such experiences, reading, my growing appreciation of my own piece of land and its isolated and beautiful brook, and workshops with outdoor educators such as Steve Van Matre influenced me to adopt several new metaphors in my teaching: the teacher as retreat leader, as nature guide, and as spiritual sojourner.

For the past ten years I have been experimenting with learning and writing holistically in natural settings. The experiments began with "Literature of the Out-of-Doors," a semester-length course for students in the last two years of secondary school. More recently the experiments have been with the teaching of literature, particularly poetry, in month-long units in outdoor settings. "Walden Within" incorporates teaching from the whole language perspective in the context of an experience-centered curriculum, with aspects of environmental education. The holistic intention seeks to emphasize the physical, moral, and spiritual dimensions in addition to the

Clement Mehlman has been teaching in rural Nova Scotia for twenty-five years, most recently at Park View Education Centre in Brigewater. His teaching has been shaped by interests in humanistic education, the acclimatization work of Steve Van Matre, Progoff's journal work, and religious and literary studies. He has served on provincial English curriculum committees, as a church camp director, and on NCTE's Committee on Contemporary Issues. He is studying holistic education and meditation with John Miller, author of The Holistic Curriculum, at the Ontario Institute for Studies in Education.

Environmental education is a comprehensive, integrated program that immerses the student in the world of nature while bringing up important intellectual and moral questions. It is hard to say where nature study leaves off and more traditional academics, such as literature, begin.

usual public school emphasis on the emotional and intellectual. Primarily, the study of English in natural settings taps the deep roots of the spiritual. Though the course and units represent an English credit, the focus is less on curriculum and more on students in the process of being, of discovering, of expressing. A trust in nature as healer and as restorer underscores our outward and inward journeys.

The holistic approach

Our lives possess a wholeness, as does the universe. Central to holistic thought is the law of ecology, which states that everything is connected to everything else. Much has been written of the dangers in fragmenting a unified universe. Renée Weber observes: "In fragmenting nature, science loses a sense of the whole. An even greater price is the loss of meaning—of the whole and sometimes even of the details."¹ The whole and the details belong together. As John Muir wrote in *Gentle Wilderness*, "when we try to pick out anything by itself, we find it hitched to everything else in the universe."² The notions of holism and ecology are related. *Umwelt*, a German word loosely translated as "surround," attempts to convey the totality of the world in which we and other living and nonliving things coexist. To teach holistically in the natural environment is to bring students into deeper communication with the "lifeworld," to enable them to see the complexity of living as well as the interconnectedness of our selves, humanity, and nature.

David Suzuki argues passionately that we have to reclaim this holism and sense of the "umwelt" and "lifeworld." "What science has done," he says, "is to cut us adrift from any kind of sense of continuity as a part of the stream of life. . . . We have been cut loose from any cosmological significance."³ In the reductionist approaches that dominate science, Suzuki regrets the loss of concern

with emotions, values, ethics, morality, beauty, and love. These are encouraging words for holistic education from a reputed scientist and educator:

I started with the proposition that humans are very different and special, because we are able to look at whales and whooping cranes and to appreciate their beauty and, in so doing, create something that did not exist before: human appreciation. . . . When we destroy other species, we show such self-contempt for ourselves that it means to reduce some of that dignity and specialness about humans.⁴

In "Walden Within" we open communication between the fields of science and literature; we overcome in some way the classical split of the world into facts and values, into knower and known, into observer and observed. In the context of the whole, we enable students to discover how "order arises from randomness, spirit from matter, personal from impersonal stuff."⁵ A holistic emphasis on curriculum strives to offer complete and integrated learning experiences that involve both sensory and spiritual dimensions. There is much to be gained in a blending of the study of literature and writing in a natural environment with a holistic emphasis; shared values of these dimensions are growth in self-realization, development of awareness and respect, increased facility in communication and creativity, nurture of an aesthetic sense, and spiritual growth. In students' emotional responses, in their writing and talking, and in their rediscovery of nature as companion, I see the effects in them of nature's gifts of healing, restoring, and spiritual insight.

Place, people, and process

I stood, still, beside the two tall hemlock, looking down on the LaHave. The slate rock bed of the river parallel to the north along this section of the bend in its journey, its edges worn and smooth through the eons of erosion, light green moss covering the submerged cliffs, high boulders washed up along the shoreline of the river that is deep down from this

cliff. And today I feel like singing Lauds to the LaHave: its clear waters, its endless journeying, its pristine strength in a hand so tamed and civilized.

A bluejay swiftly skims near the river's surface as it travels towards the Source. In the cool woods the morning Sun finds my cheek and warms me; on the solid and supporting Earth the song of the slate-coloured juno from deep in the woods invites me. (Clem, 13 September)

Imagine a warm day in autumn, a group of students, and a teacher in the park, with its pathways amid maple, hemlock, and ancient pine trees; its smaller footpath along the cliff's edge, from which you can see the river twenty-five feet below; and the opposite shore and hill, also covered with pine. A series of rock ledges in the river upstream create small waterfalls, a clearly marked border for fishermen who gather the river's rich harvest. The park, a stand of virgin pine adjacent to the LaHave River in Lunenburg County, Nova Scotia, is within two minutes' walking distance of our classroom. To that place my classes and I retreat to find ourselves, one another, and nature, and to discover some deeper insights into the experience of authors.

Initially we aim at a ten-minute "Seton Watch" and eventually work toward a twenty-minute stillness. Named after the Canadian naturalist, Ernst Thompson Seton, the Seton Watch is a stilling exercise for both mind and body. Seton observed that, after fifteen to twenty minutes of perfect stillness, nature resumed its activity as if people were not present. During the Seton Watch, after the relaxation, students are ready to observe.

Kevin, a twelfth-grader, wrote the following after his first Seton Watch in the park:

When we were walking through the woods as a group, all seemed to be in confusion. As we broke off, one by one, the confusion (in a sense) seemed to lessen.

I sat down onto the moist spongy moss and leaned against a tree. I took a deep breath and began to feel rather relaxed.

All was quiet as I sat under my tree, except for the odd caw of a passing crow and the constant rushing of the river, over that way, over the cliff, below. Then as I sat longer the area around me seemed to come alive. I could hear birds chirping in the trees above, and the odd chatter of a chipmunk or squirrel. I began to feel alone, just me and my own surroundings. It felt good, comfortable.

Then I saw a rather large flying insect. This was my creature. Not much but a lot better than the minute mosquitoes constantly buzzing in my ears, taking the odd supply of blood from my system. Thieves! I don't know what my creature was but it flew into a little hole in the tree adjacent to where I sat. I stared at the hole in the crevice, until my vision became obscured. . . . Here I was sitting expecting the stupid bug to come back out, and satisfy my curiosity, but it didn't!

The chirping was louder and clearer. I looked through the leaves, of the cluster of hardwood that grew beyond the tree with the hole in it. Fluttering, weaving in and out of branches which provide no obstacle to these little feathered creatures. I only wish I could tell their breed, but that is insignificant, for today they exist for me, as birds, and that is fine. (Kevin, 20 September)

In early November the same class was again in the park. By now they were accustomed to the stilling activity of the Seton Watch for twenty minutes, and on this day we were located in our own Magic Spots. (Magic Spots are those private places in the environment, as Steve Van Matre has named them, to which we go to enjoy and to observe nature.)

Today, I've a new place! It's small, private, very private yet crowded by nature, and this is good. Here three is company not a crowd, never a crowd. It is a ledge on the cliff that overlooks the peacefully flowing LaHave. It is solitude. Nature, here, literally surrounds me, except for the open window to the passing, floating foam below me.

With the rough, jagged cliff side to my right and the long drop into strength (water, essential to the earth) to my left, and pine or perhaps spruce blotting out the sun's warm rays above me. I feel totally enclosed by nature. It's like being in a box and never wanting to come out. I become part of it, or rather it becomes a part

of me. Engulfed in its presence, I sit there in silence, just absorbing it through all five of my senses and possibly a sixth.

I hear the constant rushing of the river's waters, way behind me, around the corner upon the awkwardly curved tree, upon which I lean, and way in front of me down the river towards "town." Civilization seems nonexistent here, I hope to God I shall continue this way. Yet the waters below my sitting place are silent, quietly flowing its thousand-year-old path.

Patterns of foam cruise by, spinning and tumbling to the river's currents. The opposite shoreline created with rocks, pebbles, boulders, all smooth and round from years of passing water. This shoreline is only to be perfected by the sun's brightening rays, flowing in perfect line with the horizon between land and river.

To think thousands of years ago this spot on which I sit was probably under this once-gigantic, rushing river, flowing to eternity. Who knows? The evolution of man and the evolution of the earth. Man has much to learn. The earth supplies answers. Man stares at the sun, becoming blinded. (Kevin, 1 November)

Between Kevin's two entries he had encountered several authors, including some transcendentalists: Ralph Waldo Emerson and his essay *Nature*, Henry David Thoreau and *Walden*, and the drama *The Night Thoreau Spent in Jail* by Lawrence and Lee. Kevin is finding his "Walden Within" and has bonded with Thoreau's appreciation of solitude, and his ability to be engaged with nature, and, therefore, with his deeper self. Thoreau wrote of his solitude on the shores of Walden Pond:

Sometimes, I sat in my sunny doorway from sunrise till noon, rapt in a reverie, amidst the pines and hickories and sumacs, in undisturbed solitude and stillness, while the birds sang around or flitted noiseless through the house. . . . I grew in those sessions like corn in the night.⁶

Like Thoreau, Kevin reveals his distaste for the "town" and his concern for preservation of the wilderness.

Symbolic activities highlight and create magic. One spring, on the

anniversary of Thoreau's death, we decided to prepare the soil in the woods for a small garden of beans; one of Henry's famous activities of mindfulness was hoeing beans. John brought the tools, Jackie the fertilizer, another student the soil, and another the seed. Together we prepared the soil and planted the seeds, and read from Thoreau's journals of that date. The following fall, I led the puzzled, new class to the site, where we surprisingly found the beans, dry and spiralled, hanging on the plants, awaiting harvest. All of the students were given beans from the spring planting, and they were encouraged to plant some of the beans themselves. A year later, Roberta sent me a bean from her "crop" from an Ontario university, where one of her few delights was browsing among the Thoreau books in the library. On another occasion, using a postcard I picked up at the Lyceum in Concord, I sent the class a note, signed "Henry," which said that he was planning a canoeing expedition to Nova Scotia and that he would be canoeing down the LaHave on a projected date and time. The class gathered at noon that fall day on the LaHave shore above the falls to meet "Henry" and interview him.

Classroom activities include small group, cooperative learning tasks on *The Starship and the Canoe* by Kenneth Brower; discussion groups on the poetry of Gary Snyder, Robert Frost, and William Wordsworth; and total-class consensus exercises on outdoors themes. Kevin wrote of a wilderness survival exercise:

I would sort of like getting lost. Just to see how and if I could survive. I would really like to "Let's say for a weekend" be confined solely to nature. No outside comforts or burdens to weigh me down. I would like to test myself, truly and wholly, maybe even learn to live like that, as did Thoreau. It would be a good test of myself. Similar to that of the test you gave us today. (Kevin, 5 January)

On very wet and cold days we occasionally "went outdoors" in our



imaginings through the use of visualizations, using many of the scripts in Steven's *Awareness*. Kevin recounted his visit to the "Wise Person in the Mountains":

Walking down the desolate path, the cool, unknown jungle surrounds me in the moonlight. As I walk, I brush the odd batch of oversized ferns or a bough of some kind of tree. The path is narrow and rough, winding slowly up the sloping mountain. The damp overgrowth is thick and the odd protruding rock on the path is hard to see in the dim light. I stumble further.

I come upon a small, more desolate path branching to the left of my climb. It is so thick with growth, used maybe once or twice. I take it gradually plowing through the undergrowth, sloping upwards slowly.

The growth becomes thinner. I see a dim, dancing light up ahead. I break out of the jungle, stumbling into a clearing and then a rock wall. A camp fire, objects lying around (boxes, bear skin, tools, homemade handy things), wood. Then a man, crouching by the fire, arms resting on legs. His glowing eyes staring at the fire. Wise and old. A wide-open cave behind him and a vine-covered rock wall.

I walk up to the fire, crouch down adjacent to him across the fire. I stare

at the fire as does the old man. Not a word is spoken. I look up at the scrawny, small, old man, his wrinkled face and big white eyes. He dresses in rags of a hundred years in age. Thin, grey hair on top of his skeleton frame.

I ask him, "What will my future hold?" He stared at me with those big, white eyes and said in a cracking, harsh voice, "You, my son, are the only one who can tell that." (Kevin, 22 November)

On a cognitive level the course provides independent time without the demands to produce and be directed by another person. There is time for students to make the connections between the present experiences and what they already know. With time to do the inner connecting, it is hoped that students will develop higher level concepts, which form the basis of integrative thinking. In the self-discoveries and other discoveries that students make, they become more integrated and whole persons and are thus able to reach out to others more compassionately. The literature and the land enable or lead students to discoveries of that vital, however forgotten, di-

mension of humanity, the natural dimension.

Transpersonal dimensions

If we are receptive to nature's lessons, if we learn to read from nature's book, the spiritual quality of our own lives will be enhanced with the gifts of wonder, of scope, and of purpose. As the poet Nancy Newhall aptly remarks: "The wilderness holds answers to more questions than we yet know how to ask."⁷

Rudolf Steiner speaks of the inner work necessary to "unlock the divine within us" before we can find it outside in the environment.⁸ Students discover that an intimate interplay exists between nature and self, and that a mood of receptivity and quiescence opens them to an awareness of the earth's presence. Each outdoor class begins with the class and teacher gathering in a perfect circle, standing shoulder to shoulder. A brief time of silence is followed by an opening meditation: Steve Van Matre's anthology of readings, *The Earth Speaks*, provides a rich source of quotations from ancient and contemporary, Eastern and Western writers. One of the readings, the following extract from Wendell Berry, reminds us of the spiritual in nature:

And the world cannot be discovered by a journey of miles, no matter how long, but only by a spiritual journey of one inch, very arduous and humbling and joyful by which we arrive at the ground at our feet, and learn to be at home.⁹

Frequent readings are from Lao Tzu, especially the familiar Taoist images of the emptiness of a wheel's hub and a clay vessel as symbols of stillness and strength. Students are encouraged to focus on these images to attain the emptiness and freedom from current concern with a past problem or a future task. As Shynryu Suzuki says:

If your mind is empty, it is always ready for anything; it is open to everything. In the beginner's mind there are many possibilities; in the expert's mind there are few.¹⁰

Students then disperse to separate

areas of the field in the early weeks and, as trust develops, to their selected Magic Spots in the park. At first students want to stick together, but after a class or two, they begin to discover the joy of being alone. In school, where the reflective and introspective person is often shunned, students discover the joys of solitude:

What chance have we, in all this cacophony, of all this prying, to be quietly alone, to contemplate our condition and to take stock of ourselves? . . . One who has never known the autonomy and solitude may make little effort to secure and keep them. One who has savored and enjoyed them for a few precious moments, will likely cherish them and struggle to protect them.¹¹

The state of quiescence and readiness is central to developing a vivid inner life. With that readiness, the observer is open to have nature enter the empty vessel. Surya Singer's words for this fresh reopening of spirit to nature are powerful:

Look at the world around you as if you just arrived on Planet Earth. Observe the rocks in their natural formations, the trees rooted in the ground, their branches reaching the sky, the plants, the animals and the interrelationships of each to the other. . . . When the mind allows its objects to remain unmolested, there may be no mind and no object—just breathless unity.¹²

Students are led to closer perceptiveness of nature by the occasional use of objects from the natural world as meditation points, or for what Kurt Vonnegut calls "grokking." Embracing a mighty oak, smelling its bark, holding an insect or a flower and peering closely into its life and intricacy become meditative. Out of the stillness and engagement with nature, deep dialogue within the student occurs. A student handed me these haiku, after a class in the park, each haiku written on a dry leaf:

Lines writ on a leaf
Last long as Nature permits
Nature governs all.

River flowing slow
Moulds earth like moss on old rocks
Earth and time are old friends.

(John, 28 November)

John and others discover what Renée Weber calls "spiritual aspiration" and find wonder and awe in the simplicity of nature. As I have observed students engaged with nature and in solitude, I have sensed that they are connecting with those years when nature was their playfellow. As six-foot Travis lies with his belly on a slate rock that projects into the river, staring contentedly for a period of time at a small trout at play, I know that he has rediscovered a bit of the inner child. Weber speaks of this intimacy:

All my life I have felt close to nature. Her presence was real to me long before I knew anything of the laws which she works—a child's prereflective though definite awareness of nature's being. Looking back, I realize that since my earliest childhood I have sensed "something" in nature's background and even in the foreground. The beautiful and lavish variety of her form has been a source of real meaning in my life, and from the beginning I felt a kinship with nature's offspring—animals, plants, rocks, forests, water, earth, the sky, and even with the remote stars and galaxies. No one taught me this; I simply awoke to the world with the conviction of my relatedness to these things. This feeling, common in childhood and often lost as we grow up, has remained with me.¹³



Alan Drengson, a philosophy professor at the University of Victoria, writes of the potential for spiritual growth through the outdoors. Modern life brings us doubt, alienation, nihilism. By the river or on a field we get back in touch with self and nature. For him, what I have been describing would be a form of *Rasa Yoga*, the "Yoga which leads to unity of Self via an appreciation of the aesthetic qualities of the natural world and of the natural human self."¹⁴

As one travels through the rich silence of the wilderness with its diverse forms of life, one reflects more and more deeply on the source of life and its creative capacities. . . . The sound of falling water and the rush of streams . . . bring us once more into the presence of our immediate experience with the world. . . . One comes to realize . . . the symmetries between human consciousness and the laws of ecology that pervade the natural world.¹⁵

This spiritual relationship between humans and the earth, of the one "presence" (to use Wordsworth's term) that is at the center of that relationship, may be found not only in the Eastern tradition but also in the thought of native North Americans. Part of the course also includes Ruth Beebe Hill's *Hanta Yo*, John Neihardt's *Black Elk Speaks*, and other native readings. Central to *Hanta Yo* is the "Vision Quest," a ritual in which a young person goes into the wilds to listen to nature and spiritual forces and to be empowered by the gifts that nature grants.¹⁶ Being fully alive, in the native tradition, means being at one with nature.

When a man has lost his closeness
with the earth,
When he no longer smells the pine
trees and the wild flowers,
When he no longer hears
the song of the cricket,
Then his heart becomes cold,
and he begins to die.¹⁷

Zen and Taoist meditators, native American Indians, modern human ecologists, and students in classes as I have been describing find the outdoors a place conducive to the inward journey. For the students,

just as it was for Thoreau, it is a place where can be found "some grand, serene, immortal, infinitely encouraging, though invisible companion, and walk with him."¹⁸ Lawrence Durrell said it so well: "All landscapes ask the same question in the same whisper. 'I am watching you—are you watching yourself in me?'"¹⁹ The land about us is a mirror reflecting back to us the images that we have impressed upon it. As part of this deepening of self-knowledge through landscape, Ralpy Lutts recommends inclusion of narrative work among students as they reflect more on the unique places in their lives. In addition to reflecting and writing on their present environments and celebrating and valuing their positive features, he encourages reflecting and storying on the past and future as well: How did the "historical process through which they and their natural environment . . . evolve into this special place," and how do they see the future alternatives that will create environments of value?²⁰ Writers such as Carson, Miles, Drenghson, and Tanner speak of the contributions to growth of holistic approaches in wilderness environments. Students become more in touch with themselves in solitude and discover anew the delight in being at one with self.

Communal dimensions

Interpersonal discoveries are also heightened by outward journeys.

What a journey we had today down the river. The spectacular pillars of ice hanging on the cliffs amazed both of us.

You know what felt good? To share a truly natural experience with a close friend of your own age. It was neat to share similar attitudes and beliefs. . . . (Kevin, 25 January)

As Kevin discovered, nature enables us to appreciate the other living beings with whom we share the earth. Out of the silence within ourselves and of the park without, we discover that we share the same source of being. Weber notes:

The awareness of the unity and inter-

connectedness of all being leads—if it is consistent—to an empathy with others. It expressed itself as reverence for life, compassion, a sense of the unity of suffering humanity, and the commitment to heal our wounded earth and its peoples. All the mystics (and virtually all the scientists) . . . draw this connection between their vision of the whole and their sense of responsibility for it.²¹

Holistic thought reminds us, just as John Donne did, that "No [one] is an island"; we are always in relationship with other human beings and our world, always part of the web of life. Being outdoors, one notes a decrease in conflicts, a lessening in psychological gaming, and a decrease in competitive behavior. Drenghson attributes this to the fact that "the principles of community, friendship, and human flowering" are alive and readable in the environment and that the reading of these enables our return to fullness and harmony.²² After time outdoors with students, I have noted how their sense of humor is restored and their spirits cheered, a return of the enthusiasm and joy of childhood. Rachel Carson writes:

Those who dwell, as scientists or laymen, among the beauties and mysteries of the earth are never alone or weary of life. Whatever the vexations or concerns of their personal lives, their thoughts can find paths that lead to inner contentment and to renewed excitement in living. Those who contemplate the beauty of the earth find reserves of strength that will endure as long as life lasts. . . . There is something infinitely healing in the repeated rhythms of nature.²³

Global dimensions

A moonlight flower
solitarily perches
on the forest floor
in the dead of the night
to comfort lonely creatures.

(Amy, 20 May)

Amy images an almost spiritual act of the flower for the earth's creatures. Just as the urge for dialogue exists between people and nature's forms, Amy invites us to consider the relationships of caring within nature. Compassion for other

human beings evolves into a compassion for other species as well. Living closer to nature shows us that both aesthetic and ethical reasons prompt more ecologically wise behavior. All organisms have a beauty of intricacy and design. Claude Levi-Strauss notes: "Any species of bug that people spray with insecticides is an irreplaceable marvel, equal to the works of art which we religiously preserve in museums."²⁴ At the base of ecological concern and awareness is a discovery within ourselves of affection and compassion for all of life. The global dimension of "Walden Within" moves learners beyond the intrapersonal and the interpersonal to the relationship of people to the planet. Any form of environmental learning provides the opportunity, one might say the obligation, to instill a commitment to end the spoilage and destruction of our world and to make of it, once more, a garden to cherish. We need to learn a preference for compassionate impulses over egotistical ones. I noted earlier that Thoreau's life was lived congruently and with integrity in accord with the principles he held inwardly. He wrote: "To be a philosopher is not merely to have subtle thoughts . . . but so to love wisdom as to live according to its dictates."²⁵ At the root of many of our ecological problems is the separation of the spiritual and the moral from nature.

To produce the changes our world requires means informed citizens, and it is pleasing to see students become actively involved in local action for social change such as Ducks Unlimited and Operation Ploughshares. Our world is shifting its focus from competitiveness and technology to the new person-planetary paradigm, a paradigm shift to intuition and deeper ecological consciousness. The holistic approach of "Walden Within," rooted in the literary and environmental interdisciplinary base, acknowledges that people and their environment are pro-

foundly interdependent. Such an approach must encompass the various ecological, personal, cultural, literary, and other aspects of the environment. We turn now to consider how these holistic approaches in the environment integrate with literary studies in the public classroom.

Literary and creativity concerns

The course that I have been describing falls in an experience-centered English curriculum, an approach in which the concern is not simply with language, literature, and thought but also with the experiences that lie behind them. The experience-centered mode engages learners with real feelings, real concerns, and real experiences and explores with them the issues that affect them. Far too often classroom learning omits the "felt experience" out of which learning flows. It is not of much use to have students read and evaluate Wordsworth's *The Prelude*, Byron's "Apostrophe to the Ocean," or Arnold's "Dover Beach" if they are not also invited to explore their own involvement with nature. To read with engagement and creativity as well as to live more vibrantly, the student must be led, as Bruno Bettelheim argues, to "develop one's inner resources, so that one's emotions, imagination, and intellect mutually support and enrich one another."²⁶ I agree with what Benjamin DeMott calls bringing literature to life in *Close Imaginings*:

Adeptness at bringing experience to life, shrewdness at speculating about what is taking place from moment to moment in other creatures, responsiveness to imagined feelings, thoughts, reactions—these are qualities without which most days of most lives would be extremely thin. The state of development of our gifts in these areas affects our tastes, our ambitions, and our capacity to realize our own ambitions. It affects our ability to care about the spectrum of human life. . . . The very act of perception itself—taking in the reality around us—depends on our power to animate, to bring the world fully to life.²⁷

In another defense of this "felt experience" approach to literature, I suggest that the river or a frog or a fantasy is "text" just as significant as what we normally see as text. The river and its environs are as rich as any book in possibilities for making meaning. What is this experience of nature? For the artist's answers, look at the landscapes of Turner or Thompson. For music, listen to Beethoven's Pastoral Symphony or Debussy's *La Mer*. For the essayist? Share the reflections of Thoreau, collected upon the shores of Walden Pond, or of Annie Dillard from Tinker Creek. For poets, read Hopkins, Blake (particularly "The Auguries of Innocence"), Wordsworth ("Intimations of Immortality"). But, remember the Eastern poets as well, such as Li P'O:

You ask me why should I stay in this
blue mountain.
I smile but do not answer. O, my
mind is at ease!
Peach blossoms and flowing streams
pass away without trace,
How different from the mundane
world!²⁸

Or this poem, which points to nature as reflection and our minds as the Tao's mirror: To the Chinese poets, directness makes images in the poem be themselves. Existence itself becomes poetry. Poetry is simply the expression of such existence. The directness and the poet's inner joy come from the poet's self, which affects the self of the reader. This dissolving and merging of the self of the poet into the selves of others is the secret of

tered ego. And the first obligation imposed on the poet is to consent to be brought back to the hidden place near the center of the soul, where this totality exists in the state of a creative source.²⁹

The Chinese poets, trained in the art of meditation, know that quiet contemplation leads to creative power, and from this seed springs forth beauty. Poetry is a reflection of the degree of enlightenment of the poet, since creativity and interiority are linked.

The compassionate teacher

Just as I am a guide in the students' literary studies, I become also a model of being "at one" with nature, that world of the LaHave River and "flowing streams" and "peach blossoms." Carson speaks of the powerful role of the guiding adult who invites the young to meet the world:

If a child is to keep alive his inborn sense of wonder without any such gift from the fairies, he needs the companionship of at least one adult who can share it, rediscovering with him the joy, excitement and mystery of the world we live in.³⁰

With students for a decade, I have been present as they discovered that joy, but present in a way of quietness, stillness, and, I hope, humility. We stand equally in the circle as classes begin. We sit equally in the circle at the end of class as we read and talk or simply listen in stillness. I know that for Kevin and John, and for Roberta and Amy, I acquired some of the features of a guide or "master" in

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poetic creativity. Jacques Maritain observes:

The creative self of the artist is his person as person . . . not his person as material individual or as self-cen-

the oriental sense. Like Lao Tzu, I strive to "teach without words." The teacher or guide needs to be in tune with the order and beauty of the earth before students can be

brought in tune. I need to strive toward the spiritual and that deeper contact with the self in order to guide the sojourners in my care.

The invitation to me and to my students is simple:

And hark! how blithe the trostle
sings!

He, too, is no mean preacher;
Come forth into the light of things,
Let Nature be your teacher.

She has a world of ready wealth,
Our minds and hearts to bless—
Spontaneous wisdom breathed by
health,

Truth breathed by cheerfulness.

One impulse from a vernal wood
May teach you more of man,
Of moral evil and of good
Than all the sages can.

Sweet is the lore which Nature
brings;
Our meddling intellect
Mis-shapes the beauteous forms of
things;
We murder to dissect.

Enough of Science and of Art;
Close up those barren leaves;
Come forth, and bring with you a
heart

That watches and receives.³¹

Notes

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Montessori teacher training



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Ecological Literacy: Education for the Twenty-First Century

by David W. Orr

A century ago, or even fifty years ago, humankind was a relatively insignificant force in nature. In recent decades, however, we have become an increasingly disruptive agent on a planetary scale. Human actions are now disturbing critical natural thresholds and balances. No part of the planet remains unaffected by human actions. Acid rain is changing the flora and fauna of large areas of the Northern Hemisphere. According to the Brundtland Commission report, we are turning 23,000 square miles into desert each year, while another 42,453 square miles are deforested.¹ The destruction of rain forests is contributing to the rapid extinction of plant and animal species. Of life forms now extant, fifteen to twenty percent will be gone by the year 2000. Carbon dioxide from the combustion of fossil fuels is warming the earth's climate, and human actions are now known to be the cause of the sharp decline in atmospheric ozone. In Lester Brown's words: "Never have so many systems vital to the earth's habitability been out of equilibrium simultaneously."²

One response to this situation is to launch a major scientific campaign, a kind of global Manhattan Project, to solve what is perceived to be a "crisis of crises."³ Concealed within proposals of this sort that regularly come from government and universities are assumptions that:

1. This crisis of crises consists of discrete problems that are solvable, not dilemmas which, though avoidable, are not solvable.
2. The analytical tools and methods of reductionist science, so useful for taking things apart in order to dominate nature, can be adapted to the tasks of restoration and healing.
3. Solutions consist of value-neutral remedies that will not create even worse secondary or tertiary effects.
4. Solutions, therefore, originate at the top, from governments and corporations, and are passed down to a passive citizenry in the form of laws, policies, and technologies.
5. Hence, the public need not be ecologically literate or competent.

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The survival of the planet depends on whether future generations can be educated in ecological literacy—an awareness of the interconnectedness of all life. Such an education requires fundamental changes in many of our present assumptions about schooling.

6. The results would be socially, ethically, politically, and humanly desirable.
7. The will to live and to sustain a humane culture can be preserved in a technocratic society.

Clearly, some part of the crisis of crises can be described accurately as problems. Some of the crises can be solved by technology, particularly those that require increased resource efficiency. The mistake, however, in proposals of this sort is the belief that we can technologize our way out of the crisis, that is, that science and technology will rescue us from the consequences of stupidity, arrogance, and ecological malfeasance. This is asking too much. Used wisely, however, they can buy us time. But time for what?

The crisis originates in the widening gulf between humankind and its natural habitat, and no science can heal this breach. At issue are the assumptions and values underlying our science, technology, economy, politics, and education. It is education, I think, that holds the key to transforming the others. If so, we must rethink both the substance and the process of education at all levels and the way we define knowledge. What will we need to know to heal the widening gulf between people and their natural habitat? What does it mean to prepare persons to live sustainably, in the words of Aldo Leopold, to go from "conqueror of the land community to plain member and citizen of it"?⁴

Against this challenge it is no small concern that young people are increasingly ecologically illiterate and alienated from natural systems. Their world is shaped by shopping malls, freeways, television, and computers. Fewer and fewer have the opportunity for regular experience with nature. They view nature as through a rear-view mirror receding in the haze.

While many critics of education worry about our ability to compete with the Japanese, it is at least equally worrisome that students

will not know, or care to know, that they are only a "cog in an ecological mechanism," as Leopold put it, whose well-being is ultimately dependent on the stewardship of natural systems. Most students now complete their formal schooling without any such comprehension. And why should it be otherwise? Few educational institutions have related the challenges of building a sustainable society to the learning process.

Foundations

Earth-centered learning rests on seven propositions. The first is the recognition that *all education is environmental education*. By what is included or excluded, emphasized or ignored, students learn that they are a part of or apart from the natural world. Through all education we inculcate the ideas of careful



Photo by Jennifer Lloyd

stewardship or carelessness. Conventional education, by and large, has been a celebration of all that is human to the exclusion of our dependence on nature. As a result, students frequently resemble what Wendell Berry has called "itinerant professional vandals," persons devoid of any sense of place or stewardship, or inkling of why these are important.⁵

Second, *environmental issues are complex and cannot be understood through a single discipline or department*. Despite a decade or more of discussion and experimentation, interdisciplinary environmental education remains an unfulfilled promise. The failure occurred, I submit, because it was tried within discipline-centric institutions. A more promising approach is to reshape the larger institutional structure to function as an interdisciplinary laboratory that includes components such as agriculture, solar technologies, forestry, land management, wildlife, waste cycling, architectural design, and economics.⁶ Part of the task of interdisciplinary education is the study of interactions across the boundaries of conventional knowledge and experience.

Third, *the study of place is a fundamental organizing concept for education*. To a great extent formal education prepares students to reside, not to inhabit. The difference is important. The resident is a temporary and rootless occupant who mostly needs to know where the banks and stores are in order to plug in. The inhabitant and a particular habitat cannot be separated without doing violence to both. The sum total of violence wrought by people who don't know who they are because they don't know where they are is the global environmental crisis. To reside is to live as a transient and as a stranger to one's place and inevitably to some part of self. The inhabitant and a place mutually shape each other. The resident, shaped by forces beyond himself, becomes that moral nonentity: a "con-

sumer" supplied by invisible resource networks that damage his and others' places. The inhabitant and the local community are parts of a system that meets real needs for food, materials, economic support, and sociability. The resident's world is a complicated system that defies order, logic, and control. The inhabitant is part of a complex order that strives for harmony between human demands and ecological processes. The resident lives in a constant blizzard of possibilities engineered by other residents. The life of the inhabitant is governed by the boundaries of sufficiency, organic harmony, and the discipline of paying attention to minute particulars. For the resident, order begins from the top and proceeds downward as law and policy. For the inhabitant, order begins with self and proceeds outward. Knowledge for the resident is theoretical and abstract. Its purpose is control. For the resident, education is akin to training, the overdevelopment of one part of self. For the inhabitant, education aims toward wholeness.

another. The quality of conversation does not rest on the brilliance of one or the other person. It is more like a dance in which the artistry is mutual.

In good conversation, words represent reality faithfully. And words have power. They can enliven or deaden, elevate or degrade, but they are never neutral, because they affect our perception and ultimately our behavior. The use of words such as *resources*, *manage*, *channelize*, *engineer*, *produce* can determine whether we are engaged in a conversation or monologue with nature. The language of nature includes the sounds of animals, whales, birds, insects, wind, and water: a language more ancient and basic than human speech. Its books are the etchings of life on the face of the land. To hear this language requires patient, disciplined study of the natural world. But it is a language for which we have an affinity.

Good conversation is unhurried. It has its own rhythm and pace. Dialogue with nature cannot be rushed; it is governed by cycles of

with the natural world is the discipline of ecology as a restorative process and healing art.

Fifth, it follows that *the way education occurs is as important as its content*. Students taught environmental awareness in a setting that does not alter their relationship to basic life support systems learn that it is sufficient to intellectualize, emote, or posture about such things without having to live differently. Environmental education ought to change the way people live, not just how they talk. This understanding of education is drawn from the writings of John Dewey, Alfred North Whitehead, J. Glenn Gray, Paulo Friere, Ivan Illich, and Eliot Wigginton. Learning in this view best occurs in response to real needs and the life situation of the learner. The radical distinctions typically drawn between teacher and student, between school and community, and between areas of knowledge are dissolved. Real learning is participatory, experiential, and interdisciplinary, not just didactic. The flow can be two ways between teachers, who function best as facilitators, and students who are expected to be active agents in defining what is learned and how.

Sixth, *experience in the natural world is both an essential part of understanding the environment, and conducive to good thinking*. Experience, properly conceived, trains the intellect to observe land carefully and to distinguish between health and its opposite. Direct experience is an antidote to indoor, abstract learning. It is also a wellspring of good thinking. Understanding nature demands a disciplined and observant intellect. But nature, in Ralph Waldo Emerson's words, is also "the vehicle of thought," a source of language, metaphor, and symbol. Natural diversity may well be the source of much of human creativity and intelligence. If so, the simplification and homogenization of ecosystems can only result in the lowering of human intelligence.

At issue are the assumptions and values underlying our science, technology, economy, politics, and education. It is education, I think, that holds the key to transforming the others.

Fourth, *for inhabitants education occurs in part as a dialogue with a place and has the characteristics of good conversation*. Formal education happens mostly as a monologue of human interest, desires, and accomplishments that drowns out all other sounds. It is the logical outcome of the belief that we are alone in a dead world of inanimate matter, energy flows, and biogeochemical cycles. But true conversation can occur only if we acknowledge the existence and interests of the other. In conversation we define ourselves, but in relation to

day and night, the seasons, the pace of procreation, and the larger rhythm of evolutionary and geological time. Human sense of time is increasingly frenetic, driven by clocks, computers, and revolutions in transportation and communication.

Good conversation has form, structure, and purpose. Conversation with nature has the purpose of establishing, in Wendell Berry's words, "What is here? What will nature permit here? What will nature help us do here?" The form and structure of any conversation

Seventh, *education relevant to the challenge of building a sustainable society will enhance the learner's competence with natural systems.* For reasons once explained by Whitehead and Dewey, practical competence is an indispensable source of good thinking. In Alfred North Whitehead's words, "It is a moot point whether the human hand created the human brain or the brain created the hand. Certainly, the connection is intimate and reciprocal."⁷ Good thinking proceeds from the friction between reflective thought and real problems. Aside from its effects on thinking, practical competence will be essential if sustainability requires, as I think it does, that people take an active part in rebuilding their homes, businesses, neighborhoods, communities, and towns. Shortening supply lines for food, energy, water, materials, while recycling waste locally, implies a high degree of competence not necessary in a society of residents dependent on central vendors and experts.

The aim: Ecological literacy

If these can be taken as the foundations of good education, what can be said of its larger purpose? In a phrase it is ecological literacy, a quality of mind that seeks out connections. It is the opposite of the specialization and narrowness characteristic of most education. The ecologically literate person closely resembles the "educated man" described by J. Glenn Gray who "has fully grasped the simple fact that his self is fully implicated in those beings around him, human and non-human, and has learned to care deeply about them."⁸ Gray implies that the educated person has the knowledge necessary to comprehend interrelatedness and an attitude of care or stewardship. The definition also implies a minimum level of practical competence in order to act on the basis of knowledge and feeling. Competence can be derived only from the experience of doing,

and the mastery of what Alasdair MacIntyre describes as a "practice."⁹ Knowing, caring, and practical competence constitute the basis of ecological literacy. I think it no accident that these are also the core of the ancient Greek concept of *paideia*.¹⁰

Ecological literacy, further, implies a broad understanding of how people and societies relate to one another and to natural systems, and how they might do so sustainably. As Garrett Hardin defines it, ecological literacy ("ecolacy") culminates in the ability to ask "what then?"¹¹ It presumes both an awareness of the interrelatedness of life and the knowledge of how the world works as a physical system. To ask, let alone answer, "what then?" presumes understanding of concepts such as carrying capacity, overshoot,

Liebig's Law of the minimum, thermodynamics, trophic levels, energetics, and succession. Ecological literacy presumes that we understand our place in the story of evolution. It is to know that our health, well-being, and ultimately our survival depend on working with, not against, natural forces. The basis for ecological literacy, then, is the comprehension of the interrelatedness of life grounded in the study of natural history, ecology, and thermodynamics. It is to understand that: "there ain't no such thing as a free lunch"; "you can never throw anything away"; and "the first law of intelligent tinkering is to keep all of the pieces." It is also to understand with Leopold, that we live in a world of wounds senselessly inflicted on nature and on ourselves.

A second stage in ecological liter-



Photo by Jennifer Lloyd

acy is to know something of the speed of the crisis that is upon us. It is to know magnitudes, rates, and trends of: population growth, species extinction, soil loss, deforestation, desertification, climate change, ozone depletion, resource exhaustion, air and water pollution, toxic and radioactive contamination, resource and energy use, that is, the vital signs of the planet and its ecosystems. To become ecologically literate is to understand the human enterprise for what it is: a sudden eruption in the enormity of evolutionary time.

Ecological literacy requires a comprehension of the dynamics of the modern world. The best starting place is to read the original rationale for the domination of nature found in the writings of Francis Bacon, René Descartes, and Galileo. Here one finds the justification for the union of science with power and the case for separating ourselves from nature in order to control it more fully. To comprehend the idea of controlling nature, one must fathom the sources of the urge to power and the paradox of rational means harnessed to insane ends portrayed in Christopher Marlowe's *Doctor Faustus*, Mary Shelley's *Frankenstein*, Herman Melville's *Moby Dick*, and Fyodor Dostoyevsky's "Legend of the Grand Inquisitor."

Ecological literacy, then, requires a thorough understanding of the ways in which people and whole societies have become destructive of the natural world. The ecologically literate person will appreciate something of how social structures, religion, science, politics, technology, patriarchy, culture, agriculture, and human cussedness combine as causes of our predicament.

The diagnosis of the causes of our plight is only half of the issue. But before we can address solutions there are several issues that demand clarification. "Nature," for example, is variously portrayed as "red in tooth and claw," or like the film *Bambi*, full of sweet little crit-

ters. Economists see nature as natural resources to be used; backpackers see it as a wellspring of transcendent values. We are no more clear about our own nature, whether we are made in the image of God, or merely a machine or computer, or animal. These are not trivial, academic issues. Unless we can make reasonable distinctions between what is natural and what is not, and why that difference is important, we are liable to be at the mercy of the engineers who want to remake all of nature, including our own.

Environmental literacy also requires a broad familiarity with the development of ecological consciousness. The best history of the concept of ecology is still Donald Worster's *Nature's Economy*.¹² It is unclear whether the science of ecology will be "the last of the old sciences, or the first of the new." As the former, ecology is the science of efficient resource manage-

and educational institutions, and a change in metaphors from mechanical to organic, industrial to biological. As part of the change we will need alternative measures of well-being, such as those proposed by Amory Lovins (least-cost end use analysis),¹³ H.T. Odum (energy accounting),¹⁴ and John Cobb (index of sustainable welfare).¹⁵ Sustainability also implies a different approach that gives greater priority to technologies that are smaller in scale, less environmentally destructive, and rely on the free services of natural systems. Not infrequently technologies with these characteristics are also highly cost-effective, especially when subsidies for competing technologies are leveled out.

If sustainability represents a minority tradition, it is nonetheless a long one, dating back at least to Thomas Jefferson. No student should be considered ecologically literate until he or she has read

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ment. As the first of the new sciences, ecology is the basis for a broader search for pattern and meaning. As such it cannot avoid issues of values and the ethical questions raised most succinctly in Aldo Leopold's "The Land Ethic."

The study of environmental problems is an exercise in despair unless it is regarded as only the preface to the study, design, and implementation of solutions. The concept of sustainability implies a radical change in the institutions and patterns that we've come to accept as normal. It begins with ecology as the basis for the redesign of technology, cities, farms,

Henry David Thoreau, Pyotr Kropotkin, John Muir, Albert Howard, Alfred North Whitehead, Indira Gandhi, Albert Schweitzer, Aldo Leopold, Lewis Mumford, Rachel Carson, E.F. Schumacher, and Wendell Berry. There are alternatives to the present patterns that have remained dormant or isolated, not because they did not work, were poorly thought out, or were impractical. In contrast to the directions of modern society, this tradition emphasizes democratic participation, the extension of ethical obligations to the land community, careful ecological design, simplicity, widespread compe-

tence with natural systems, sense of place, holism, decentralization or whatever can best be decentralized, and human-scaled technologies and communities. It is a tradition dedicated to the search for patterns, unity, and connections among people of all ages, races, nationalities, and generations, and between people and the natural world. This is a tradition grounded in the belief that life is sacred and not to be expended carelessly on the ephemeral. It is a tradition that challenges militarism, injustice, ecological destruction, and authoritarianism, while it supports all actions that lead to real peace, fairness, sustainability, and the people's right to participate in decisions that affect their lives. Ultimately, it is a tradition built on a view of ourselves as finite and fallible creatures living in a world limited by natural laws.

The contrasting Promethean view, given force by the success of

technology, holds that we should remove all limits, whether imposed by nature, human nature, or morality. Its slogan is found emblazoned on the advertisements of the age: "You can have it all" (Mich-elob Beer), or "To know no boundaries" (Merrill Lynch). The ecologically literate citizen will recognize these immediately for what they are: the stuff of epitaphs. Ecological literacy leads in other, more durable directions toward prudence, stewardship, and the celebration of the Creation.

Notes

1. World Commission on Environment and Development, *Our Common Future* (New York: Oxford University Press, 1987), pp. 1-23.
2. Lester Brown, *State of the World: 1987* (New York: W.W. Norton, 1987), p. 18.
3. The phrase is John Platt's, "What We Must Do," *Science* (28 November, 1969).
4. Aldo Leopold, *A Sand County Almanac* (New York: Ballantine, 1966), p. 240.
5. Wendell Berry, *Home Economics* (San Francisco: North Point Press, 1987), p. 50.
6. On the structure of environmental education, see Lynton K. Caldwell, "Environmental Studies: Discipline or Metadiscipline," *The Environmental Professional* (1983), pp. 247-259.
7. Alfred North Whitehead, *The Aims of Education* (New York: Free Press, 1975), p. 51.
8. J. Glenn Gray, *Rethinking American Education* (Middletown: Wesleyan University Press, 1981), p. 39.
9. Alasdair MacIntyre, *After Virtue* (South Bend: Notre Dame University Press, 1981), pp. 168-189.
10. See Werner Jaeger, *Paideia: The Ideals of Greek Culture* (New York: Oxford University Press, 1945); also Lewis Mumford, *The Transformations of Man* (New York: Harper Torchbooks, 1972), pp. 169-192.
11. Garrett Hardin, *Filters Against Folly* (New York: Penguin Books, 1985), pp. 53-69.
12. Donald Worster, *Nature's Economy* (San Francisco: Sierra Club Books, 1977; reissued by Cambridge University Press, 1985).
13. Amory Lovins, *Soft Energy Paths* (Cambridge: Ballinger, 1977).
14. For the best discussion of energy accounting, see Charles Hall et al., *Energy and Resource Quality* (New York: Wiley and Sons, 1986) pp. 3-151.
15. John Cobb, et al., "An Index of Sustainable Welfare" (1988), unpublished.

Upcoming Issues of *Holistic Education Review*

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How American education has sought to socialize the young generation into a homogeneous culture, and possible alternatives from a holistic perspective.

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We invite articles on each of these themes. We especially encourage practicing educators to share their thoughts and experiences on these and other subjects relevant to holistic education. Please send for complete authors' guidelines.

We also welcome photos, letters, advertisements, and items for our resource and conference listings.

Environmental Education as an Integrative Study

by Edward T. Clark, Jr.

After almost fifteen years of obscurity, environmental education seems to be on the verge of a comeback. This should come as no surprise to those who follow social trends. In *Cycles of American History*, Arthur M. Schlesinger, Jr., identifies a cyclical rhythm in our national life that oscillates between "public purpose" and "private interest."¹ If this rhythm continues, the 1990s will see public purpose move to the forefront of American political life once again. When Schlesinger wrote in 1986, the values and goals of "privatization" seemed to dominate every aspect of our social, economic, political, and environmental

decisions, and there was little evidence of a return to public interest in the near future. But, as he points out, true cycles are self-generating, driven by their own internal rhythms. Each phase flows naturally from the conditions of the previous phase and, in turn, creates the conditions that call forth the next recurrence. One evidence of this ebb and flow is the recent, rather sudden recognition of the increasing threat to our planetary life support systems that has resulted from the free reign of private interest during the past decade. In the minds of many, environmental degradation has reached a crisis point, so that Schlesinger's prediction of a return to public interest seems appropriate.

It is significant that Schlesinger prefers the concept of "spiral" to that of "cycle," because there does seem to be an evolutionary direction involved in the process. The spiral nature of these cultural rhythms suggest that the attention to be paid to environmental concerns in the next decade may be both more dramatic and more enduring than previous efforts. The increasingly serious nature of the global environmental crisis reinforces this possibility. The warning signals are everywhere: overpopulation; resource depletion; air, water, and solid and toxic waste pollution; drought; desertification; famine; and the greenhouse effect. For the first time in a decade, environmental issues have begun to move higher on the political agenda of every industrialized nation. This shift in significance was graphically

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When "environment" is understood as the entire context of our lives—as the interconnectedness among biology, technology, and culture—then environmental education must be seen as the larger picture that gives meaning to all studies. Seven key principles of ecology are directly applicable to all cultural endeavors, including education.

reinforced when *Time* magazine depicted "Endangered Earth" smothered with plastic and bound with chains as "The Planet of the Year."² With this increased awareness, there is a slow but growing recognition that we can no longer take what is euphemistically called "the environment" for granted.

For some at least, this growing awareness includes the recognition that education must play a major role in reshaping our thinking and attitudes toward the world in which we live—a process that Robert Ornstein and Paul Ehrlich call "reprogramming."³ I suggest that the primary vehicle for this kind of reprogramming will be environmental education. However, if environmental education is to meet the challenge of reshaping the thinking and attitudes of the next generation of adults, it must have a different focus and a different form than most environmental education programs that have survived the educational reform movement of the past five years. For the most part, existing programs have become victim of three fundamental misconceptions, each of which stands as a major barrier against any effective resurgence of environmental education.

The first misconception is that environmental education is a separate subject that must be added to an already overcrowded curriculum. Because there is no room in the curriculum for a new subject, what passes for environmental education is usually tacked on to an introductory science course where it is presented as a unit on ecology, usually at the tail end of freshman biology. The placement of environmental education as an appendage to science reflects the second misconception, namely, that environmental education is the same thing as science education. Both of these misconceptions reflect a third, perhaps even more fundamental misconception that the environment is something "out there," and is just another word for "nature." This misconception is

reflected in the commonly accepted assumption that environmental education and outdoor education are synonymous.

Individually or collectively, these three misconceptions shape the dominant mind-set of the great majority of educators as well as the public in general. Thus, the first step in considering what environmental education "should be" is to change that mind-set. A new mind-set requires a new and different conceptual framework—one more appropriate both to the nature of the environmental problems we face and to what we now know about the nature of thinking and learning. The purpose of this article is to suggest such a conceptual framework.

A brief history of environmental education

Before World War II, most children received their "environmental education" as a part of growing up. Because the majority were raised either on farms or in small towns, there was a high level of awareness of and sensitivity to the natural cycles that governed much of their lives. The farmer was a confirmed "weather watcher" who needed no computerized "forecast" to tell him what was happen-

problems related to pollution—smog in Los Angeles, a "dead" Lake Erie, an abandoned "Love Canal"—environmental programs seemed to be the logical educational response. The early 1970s became the heyday of environmental education.

The initial emergent programs had a solid conceptual base. Sidney Marland, then U.S. Commissioner of Education, provided a unifying focus for what was considered by many to be a major new field of study. Marland suggested that environmental education could become the key to true interdisciplinary education, because it started with humanity and moved into every area of life. With this single insight, Marland challenged each of the above misconceptions. The environment is not "out there" but is everywhere. Environmental education is not solely or even primarily science education, nor is it a separate subject to be studied in isolation from other subjects. The U.S. Office of Environmental Education added a crucial element to this integrative perspective when it defined environmental education as "educational processes dealing with man's relationship with his natural and man-made surroundings." This defini-

Competition apart from cooperation is essentially a meaningless concept.

ing outside. Children learned firsthand about plants and animals, life, birth and death, often developing a deep, intuitive appreciation for the rhythms of the natural world. Few believed that milk came from a bottle or eggs from a box. It was only with the movement to cities during and following the war that the majority of children grew up without this experiential knowledge. As a result, when the intensive economic and industrial growth of the 1950s and 1960s left us with substantial

tion went on to identify with some specificity the relevance of these relationships to each of the various subjects taught in school.

Unfortunately, education was not ready for these integrative themes. Most administrators and teachers were still struggling with the aftermath of well-conceived but often poorly understood and thus inadequately executed innovative programs of the 1960s. When environmental education became a mandated program, as it did in many states, educators re-

sponded as they usually do to such mandates—pragmatically. They fit this new program in wherever they could and continued business as usual. When the inevitable cut-backs came, environmental education was often the first victim. Today, most remaining programs exist only because of a single teacher or an occasional principal whose interest and commitment kept environmental education alive—almost as an underground movement. In the process, the misconceptions that shaped these first environmental programs continued to dominate the thinking of most educators.

Although the integrative themes that dominated the environmental philosophy of the 1970s had a limited impact on the actual emergent programs, their power and relevance are undiminished, and they remain as appropriate to today's need as they were to the need of their time. Indeed, they stand as a benchmark for what environmental education must become if it is to meet the challenge presented by today's substantively more serious environmental threats. To summarize these themes: environmental education is about the *fundamental relationships* that exist between humans and the world in which we live. To use the words of Noel McInnis, environment is "nature, culture, technology, people, ideas and feelings."⁴ In short, environmental education is about "everywhere" and "everything." As such, its concerns are relevant to and must become an integral part of every academic subject taught from kindergarten through graduate school. What is required is a conceptual framework that reflects the integrative nature of environmental education and provides teachers and students alike with a new way of understanding the world.

A new look at environmental education

Unfortunately, the universal relevance of environmental education

is difficult for most educators to understand, primarily because of the fragmented conceptual framework that dominates education as a whole. Perhaps the best way to explain this is through analogy. Let us think of education as learning to put together a jigsaw puzzle. The pieces represent all of the data, information, and knowledge that we have about the world. Each subject studied in school focuses its attention on a specific collection of pieces. To pursue our analogy, let's say that the natural sciences study the green pieces, the social sciences study the blue pieces, the humanities study the orange pieces, and math studies the red pieces. When we subdivide the pieces by shades of color, each shade of green could be said to represent a different science—biology, geology, physics, chemistry. Because the nature of the scientific method is reductionist, its primary

ing are contextual in nature. As research has made clear, all thinking and learning begins with the context as a frame of reference for providing meaning. In short, without the picture, the pieces of a puzzle are meaningless. This is why no one tries to put together a jigsaw puzzle without first looking at the picture. Even young children know that. I once tried to play a joke on my four-year-old granddaughter. I gave her a plain paper bag full of jigsaw puzzle pieces. She dumped them on the floor and after a moment of puzzled silence, she turned and asked, "Granddaddy, where's the picture?" I am suggesting that *because its perspective is comprehensive and global, environmental education can provide education with the "big picture," which enables us to make sense out of our jigsaw puzzle world.* Because it focuses on the relationships that exist between nature, culture,

If we are to reconceptualize the meaning and purpose of environmental education, it is necessary that we understand the true nature of the relationship between ecology and economics.

focus is on the individual piece of the puzzle in isolation from the rest of the parts. Pursuing the analogy, the primary goal of education becomes one of providing students with as many pieces of the puzzle, that is, as much information, as they can possibly retain. The unstated assumption is that, given enough information, students will understand how the pieces of the puzzle fit together and thus will be able to determine what the picture looks like.

The trouble with this view of education is that the underlying assumption is false. It does not reflect what we now know about the way thinking and learning take place; namely, thinking and learn-

ing are contextual in nature. As research has made clear, all thinking and learning begins with the context as a frame of reference for providing meaning. In short, without the picture, the pieces of a puzzle are meaningless. This is why no one tries to put together a jigsaw puzzle without first looking at the picture. Even young children know that. I once tried to play a joke on my four-year-old granddaughter. I gave her a plain paper bag full of jigsaw puzzle pieces. She dumped them on the floor and after a moment of puzzled silence, she turned and asked, "Granddaddy, where's the picture?" I am suggesting that *because its perspective is comprehensive and global, environmental education can provide education with the "big picture," which enables us to make sense out of our jigsaw puzzle world.* Because it focuses on the relationships that exist between nature, culture,

The goals of environmental education

The bottom line outcome for any effective environmental education program is to change behavior. The first step in achieving this goal is

to change the way a person thinks about something—what I call their mind-set. The way we think influences the way we act.⁵ To change the way we live in the environment, we must first change the way we think about the environment. Thus, a primary focus of any environmental education program must be to *change the way people think about their relationship to the world in which we live*. As John Helfrich writes, we must “change enough people’s perception of the world (if we are) to save it.”⁶ Unfortunately, one of the great illusions of the so-called information age is that the way to change people’s thinking is to give them more information. The truth is that information, per se, seldom changes thinking. Indeed, the process is just the opposite. The way we think determines what information we take in and how we interpret and use that information. For example, the naturalist sees the last stand of virgin timber as a resource to be protected, while the lumberman sees the same trees in terms of profit to

be gained. No amount of information is going to change either of these perceptions, precisely because it is the mind-set that shapes perception and behavior. In order to change the mind-set of a generation raised with little personal experiences of the “environment,” we need a new way of conceptualizing or thinking about the world and our relationship to it. Fundamental to this new way of thinking is what the Carnegie Foundation for the Advancement of Teaching refers to as “understanding the connectedness of things.”

The most effective method I have found to change people’s mind-sets is to expand the context within which they perceive something. In this case, the expanded context is global in nature and is symbolized by the photograph of Earth from space. This powerful visual image has encouraged some scientists to consider Earth as the largest single living organism we know. Whether one accepts this concept as a literal or merely a metaphorical descrip-

tion of our planet, it seems clear that this image contains powerful new insights that will in time have a tremendous impact on the way we think about ourselves and our relationship with the planet. In 1948, astrophysicist Fred Hoyle wrote these prophetic words: “Once a photograph of the Earth taken from the outside, is available . . . a new idea as powerful as any in history will be let loose.”⁷ This idea must form the core of environmental education as it evolves in the next decade.

One facet of this powerful new idea is the recognition that the planetary ecological system is essentially a *single, integrated life support system*. We are as tied to and dependent upon the life support system as the scuba diver is tied to and dependent upon the life support system she carries on her back. This analogy represents a major reconceptualization of what is meant by “the environment” and the problems related to maintaining that environment. It is as though we are all scuba divers—totally dependent upon a fragile supply of oxygen for survival. To inject pollutants into the air we breathe is precisely the same as injecting pollutants into a scuba diver’s oxygen tanks. Once we understand the full implications of this analogy, we will be able to develop an environmental education program that shapes not only the way we *think* about the environment, but also the way we live in the environment.

Another facet of this new idea, which is implicit if not explicit in the image of Earth from space, is the recognition that all of our natural and cultural systems are interconnected and interdependent. Given this insight, it seems obvious to conclude that all of our cultural systems are subsystems of a single planetary ecological system *in exactly the same way that the heart and lungs are subsystems of the human body*. In short, all cultural systems are themselves ecological systems! Every academic discipline and professional field of work is, at some



Photo courtesy of Greenfield Center School/Northeast Foundation for Children

fundamental level, ecological in character. Sociology is the ecology of social groups. Political science is the ecology of collective decision making. Economics is the ecology of finance and exchange. Business management is concerned with the ecology of organizations. Physics, chemistry, and geology are studies of the ecology of physical matter, while mathematics is the ecology of numbers and their relationship to physical matter. Reading and writing are fundamental expressions of the ecology of language and communication, while art, music, drama, and dance reflect other forms of the ecology of communication. This insight provides the rationale by which environmental education can become the integrative component in the entire curriculum. Precisely because it focuses on the relationships that exist among all physical and cultural systems that make up the single planetary ecological system, we can say unequivocally, *all good education is environmental.*

Implicit in the above discussion is the recognition of what general systems theory refers to as the isomorphic nature of all ecological systems—both natural and cultural. This means that, regardless of their many differences, all natural and cultural systems share certain fundamental organizational characteristics. Just as the organizing principles that govern the health of the human body as a whole apply equally to each individual organ (subsystem) of the body, the fundamental principles to a healthy planetary ecological system are equally relevant to the health of all cultural subsystems. In other words, the same principles that apply to the planetary ecological system can be applied equally to all academic disciplines and fields of professional study. By incorporating these principles into its fundamental structure, environmental education will become the vehicle by which the integrative, relational principles of ecological systems can be applied to all of our

cultural systems and the academic disciplines to study these systems.

Once we understand that all physical and cultural systems *and the thought systems by which we know and study them* are ecological in nature, we can begin to build a cognitive structure that will serve as a comprehensive and integrative frame of reference within which a rich diversity of environmental education programs can be designed. The base for such a structure is provided by ecology, which is by definition "a study of the relationships between living things and their environments." Although "ecology" is not synonymous with "environment," ecological principles and concepts provide an appropriate conceptual framework for environmental education. The relationship between ecology and environmental education can be clarified if we look at the etymology of the word *ecology*. Derived from the Greek root word *oikos* meaning "household," ecology is the study of how "Household Earth" works. Environmental education thus becomes a study of the relationships that exist among *everything that is a part of our planetary ecological system, that is, "Household Earth."*

Operating principles for ecological systems

General systems theory suggests that all ecological systems are structured to function in essentially the same way. Over the past fifteen years, my studies of ecological systems suggest that there are seven distinctive functions intrinsic to all living systems.⁸ Each reflects a unique yet necessary functional component of a system. These seven are fundamental because they seem to incorporate all other such functions. On the basis of our understanding of how ecological systems function, each of these functions is characterized by an ecological principle. Because each of these principles reflects a different facet or aspect of the connectedness of things, together

they provide us with a conceptual framework appropriate to environmental education as described above. By extrapolation, they are relevant to all subjects taught in school and therefore can provide the basis upon which to organize an entire curriculum. A graphic model of such a curriculum might resemble a seven-strand helix. A brief discussion of each of the seven principles and their functional relevance follows.

1. Carrying capacity. Every system must have a resource base to provide the raw materials upon which the system depends for survival. Thus every system is finite and must exist within limits prescribed by its resources. In ecology, these limits are characterized by the concept of carrying capacity. By definition, *carrying capacity* identifies the maximum number of individuals of a given species that can be maintained for an indefinite period of time in a specified area by the resources in that area. As such, carrying capacity defines population limits imposed by available resources. For example, if it takes one acre of an oak forest to provide the resources needed by a single squirrel, then the carrying capacity of a hundred-acre oak forest would be one hundred squirrels. This number will remain relatively stable for an indefinite period of time, unless some outside influence changes this balance of nature. If someone were to cut down some of the trees, then the carrying capacity of the forest would be diminished accordingly. Over the vast period of evolutionary history, plants and animals have adapted to their resource requirements so that territorial needs are closely correlated to available resources. Over time, this amount of space becomes psychologically necessary for both plants and animals. If further crowding occurs, then the result is disease or starvation.

Every system requires a resource base to determine its carrying ca-

capacity. A home has a carrying capacity; so does an office, a schoolroom, a nation, and the planet. When the limits prescribed by that resource base are exceeded, there is trouble. For example, crowding in an office inevitably cuts down on productivity. Crowding in a classroom always has negative consequences on learning. Crowding in our cities produces physical hazards (ranging from joblessness, homelessness, disease, and crime) to more subtle psychological hazards (such as loneliness, stress, depression, anger, frustration, and helplessness).

cess of the system as a whole. In ecology, this relationship is illustrated best by the relationship that exists between an ecological community and the individual niches which make up that community. Each niche represents a functional slot in the ecology of a community. In a food chain, for example, each species represents an often highly specialized function: providing food for a predator species and at the same time acting as predator for the species on which it feeds. If a particular species is wiped out by disease, then the entire ecological community is threatened.

ity of any system is dependent. The more diverse any system is, the more stable it becomes. For example, an oak forest with its rich diversity of life is far more stable than a cornfield, which is essentially a monoculture. A natural forest is more stable than a man-made forest of Douglas firs planted by a lumber company. Stability in cultural systems requires similar diversity. The diversity of ethnic and cultural backgrounds is one of the strengths of our nation. In spite of our envy of Japan's success, her major weakness is the lack of ethnic diversity. What appears to be strength may in time prove to be a fundamental, unmitigated weakness. It is ironic that both Japan and Germany, the two aggressor nations in World War II, were both in essence ethnic monocultures—highly susceptible to ideologies based on ethnic superiority. Such ideologies could never be effective in the United States because, if they appealed to one group, at the same time they would be rejected by many other groups. In all human organizations, diversity is necessary to maintain stability. This is especially important in our age of narrow specialization.

Perhaps the most appropriate synonym for "environment" is "context." Just as good education is environmental, it is also contextual.

One of the fundamental realities in American society is that the concept of limits seems to have no place in our lexicon. Collectively, we prefer to believe in an infinite horizon and a limitless frontier. As a result, we operate both politically and economically on the assumption that there are enough resources for everyone in America, if not in the world, to have a standard of living that lacks for nothing.

2. Interdependence. Interdependence is the unifying principle operative in all systems. As the "queen" principle of ecology, it defines the nature of the relationships that exist among the individual parts of a system and between those parts and the system as a whole. Because we are programmed to think in polarized, either/or terms, the concept of interdependence is difficult for many people to understand. Substantively, it is a relationship in which the success of the system as a whole depends upon the success of each part, while the success of each part depends upon the suc-

cess of each species depends upon the success of the community as a whole, while the success of the entire community depends upon the success of each individual species.

Interdependence is a universal characteristic recognized as being fundamental to the success of all social, economic, and political systems. As an integrative concept it can be applied with equal appropriateness to a work of art and the study of a galaxy; to writing a sentence and learning a language; to computer science and the engineering of a spaceship; to the sociology of a family or of a multinational corporation. Because of its comprehensive relevance, interdependence can become a powerful unifying strand in the broad tapestry of thinking and learning. Once a child understands this concept, he or she is able, through the transfer of learning, to operationalize the concept in a virtually limitless number of applications.

3. Diversity. Diversity is the foundation upon which the stabil-

4. Change, adaptation. Change is a universal principle that reflects the impact of time on all systems. But the concept of change alone is meaningless without some understanding of the way that systemic change takes place. The fundamental principle that describes change in natural and cultural systems is adaptation—a short-term form of evolution. Adaptation is the process by which a system (e.g., a human body, a forest, an organization, an entire society) responds to the vicissitudes of a constantly shifting external environment. Because of their ability to adapt to the incursions of civilization, animal species such as deer and coyotes have been far more successful than larger predators such as mountain lions and bears. Primi-

tive cultures that have been able to adapt to the intrusion of technology on their lives have survived, while the most rigid ones have not. One advantage that small businesses often have over larger ones is their ability to adapt more readily to rapidly changing demands of the market place. The inability to adapt eventually results in extinction—for an animal species, for a business, or for a national government. The ability to adapt successfully to a changing environment results in creativity and diversity, the hallmark of a successful system.

5. Competition/cooperation. All systems are characterized by the twin impulses of competition and cooperation. These two powerful drives ideally function in a unique reciprocal relationship much like centrifugal and centripetal forces. When a balance between the two is achieved, the dynamic of adaptive change results in both stability and creativity, each of which is crucial to the success of all living systems.

Competition is one of the most misunderstood of all ecological concepts. It seems to be believed almost universally that unbridled competition is the fundamental driving principle in the natural world. Extrapolating from this interpretation of natural principles, there is a powerful bias in our country toward unrestrained competition in human economies. The irony is that (a) there is no such thing as unrestrained competition in nature, and (b) no one believes in unrestrained economic competition. In natural systems, competition within species is always constrained by cooperative strategies such as territoriality and dominance hierarchy. Competition between species is controlled by factors such as adaptive modifications, which often result in two similar species utilizing entirely different food sources. In cultural systems, the most vocal defenders of unrestrained economic competition are the first to exploit political means to protect themselves from

the very competition that they defend. Even the most voracious of the robber barons sought the cooperation of government to protect their rights to exploit their competitors.

In short, competition apart from cooperation is essentially a meaningless concept. Even in so-called competitive sports, successful competition requires some form of cooperative behavior. If one compares the number of cooperative transactions with the number of competitive transactions that take place during a typical professional football game, it is obvious that there is far more cooperation than competition. Indeed, one cannot conceive of a game without rules, whether it be the "game of life" as played in nature, or the economic game as played either in capitalist democracies or in communist dictatorships. Just as socialist countries are beginning to recognize the need for more economic competition, so capitalist countries will be forced to acknowledge the need for more explicit cooperative economic strategies. The ideal is neither unlimited competition nor absolute cooperative agreement, but a dynamic balance between the two. Competition apart from cooperative constraints is not only meaningless but will ultimately lead to annihilation.

The need to reconceptualize our understanding of the function of competition in both natural and cultural systems is crucial if we are to achieve some viable form of global economic cooperation. For too long we have allowed the outdated and poorly understood concept of "survival of the fittest" to dominate our thinking in political and economic arenas. Significant insights to help rethink our understanding of competition are found in *The New Biology* by Robert Augros and George Stanciu.⁹

6. Cycles. There are two kinds of cycles in natural and cultural systems. One is the rhythmic fluctua-

tions that occur over time, such as the seasons and life cycles. The other refers to the physical recycling of materials—the flow and exchange of atoms and molecules of matter through physical systems, such as the planetary ecological system and the human body—or money as a symbolic substitute for materials through cultural systems. Cycles in living systems are never static. Rather, as "rhythms of change" they reflect the ongoing adaptive processes of a system. Because of their dynamic nature, their function in living systems can be described best in cybernetic terms as feedback loops. For example, the recent trend toward warmer summers can be interpreted as systemic feedback regarding the overall health of the planetary ecological system. In the same way, the presence of strontium 90 in mothers' milk or DDT in eagles' eggs provided us with feedback concerning the health of the larger system of which we are a part. Just as urinalysis provides feedback concerning health of the human body, the quality of our planetary water supply provides us with feedback concerning the health of our ecological systems. I began this article with a reference to Arthur Schlesinger's provocative book, *Cycles in American History*, in which he points to the lessons learned from a study of various historical cycles. In a similar manner, cycles are relevant to every subject studied in school and every arena in life.

7. Energy flow. All living systems are open systems and as such are dependent upon an external energy source for survival. Just as our planetary ecology is dependent upon the energy from the sun, all plants and animals are dependent upon an external energy source in the form of food. If we were able to think of food as energy, we would learn to be as careful about the food we take into our bodies as we are about the quality of gasoline we use in our

automobiles. Cultural systems depend for their survival upon some form of external energy—in the form of human energy or mechanical energy, and usually a combination of both. Since the first law of thermodynamics tells us that energy can be neither created nor destroyed but only transformed, and the second law tells us that it can be transformed only one way—toward a dissipated state—every energy exchange produces waste or dissipated energy no longer available for work. The measure of this unavailable energy is entropy. The more energy we use, the greater the entropy. Jeremy Rifkin points out that pollution is merely another name for entropy.¹⁰ Once we understand this, it becomes clear that the increasing levels of pollution are the direct result of high levels of energy usage. The greenhouse effect is the result of an accumulation of high levels of wasted energy. For the short term, the principle of energy flow can be summed up in the well-known phrase, “there’s no such thing as a free lunch.” For the long term, it reflects the ultimate bottom line—“nothing is forever.” All ecological systems will, in time, die. While there is nothing we can do to prevent the long-term death of the universe, in the short term, it becomes clear that the immediate consequences of our high levels of energy transformation result in dangerously high levels of pollution. The only way to reduce pollution will be to use less energy and to rely as much as possible on low entropic forms of energy, the so-called natural energy sources such as solar, wind, and water.

Ecology and economics: A special case

One of the greatest conceptual barriers to effective environmental education in American society is our understanding of the relationship between ecology and economics. Until this relationship is clarified, environmental education

will never be truly successful. This is a great irony, because the appropriate relationship between the two should be obvious once we understand the relationship between the two words, ecology and economy. As I have already pointed out, *ecology* is derived from the Greek word for household and is the study of how Household Earth works. *Economics* is derived from the same word and was considered to be the study of how to manage Household Earth. On the basis of this etymological association, it seems almost simple-minded to suggest the obvious: If one wishes to manage the household, one must first understand how the household works. That this is not the case is evident.

Adam Smith, the father of our market-oriented “capitalistic” economic system, understood this relationship well. A close and astute observer of nature, he used “nature’s economy” as a model for his economic ideas. Unfortunately his model was contingent upon two false assumptions, neither of which was particularly significant at the time. First was the assumption of an unlimited resource base—certainly a reasonable assumption in the late eighteenth century. The second was an assumption that competition was the sole driving force behind the survival of species and individuals—again an understandable oversimplification of the way natural systems maintained their balance.

However, because these two assumptions have for the most part gone unquestioned, today we are trapped in an economic system that ignores the fundamental relationship between ecology and economics implicit in their definitions. Ignoring the constraints imposed by “carrying capacity,” our global economic system is dependent upon ever increasing consumption, which in turn is dependent upon ever increasing exploitation of the resources that constitute our planetary life support system.

An illustration of how the relationship between economics and ecology has become distorted is provided by economist and Nobel Laureate Milton Friedman. He discusses this relationship in terms of a cost/benefit analysis by posing the question: How much pollution can the economic system afford? In his words,

The real problem is not “eliminating pollution,” but trying to establish arrangements that will yield the “right” amount of pollution: an amount such that the gain from reducing pollution a bit more just balances the sacrifices of the other good things—houses, shoes, coats, and so on—that would have to be given up in order to reduce the pollution. If we go further than that, we sacrifice more than we gain.¹¹

If we return to the analogy of the scuba diver and apply the same cost/benefit analysis to her experience, the more fundamental issue becomes clear:

If someone is willing to pay me \$1000 to pollute my oxygen tank by ten percent, and \$5000 for polluting it twenty percent, or \$25,000 for polluting it thirty percent, then I should determine the “right” amount of pollution by first deciding the gains, i.e., how much money I want to get from the transaction. (Note: in considering such a transaction, it is worth remembering that any pollution is soon dispersed throughout the entire tank so that one can’t adjust for it merely by cutting the time spent under water by ten or twenty percent.)

Given this perspective it seems obvious—even to a novice scuba diver—that the real cost/benefit question is the opposite of Friedman’s question. The operative question is *How much consumption can the ecological system afford?*

If we are to reconceptualize the meaning and purpose of environmental education, it is necessary that we understand the true nature of the relationship between ecology and economics. Although George Bush during his election campaign proclaimed, “There is no conflict between the economy and the environment,” the reality is otherwise. It is expressed best in

the mathematical principle that one cannot maximize two variables in the same equation. In this case the equation is:

$$\text{Economy} + \text{Ecology} = \text{Healthy Life Support System}$$

As already illustrated, few economists recognize this relationship or have any substantive understanding of how our ecological life support systems work. As a result, primarily due to this conceptual barrier, we continue to destroy our life support system at an alarming rate—all in the name of a growth economy. In short, the environmental problems we have created have not been caused by evil men but by ignorant men. We simply do not understand what we are doing! A first step toward correcting our problems would be for economists to gain an understanding of the seven systemic ecological principles described above.

Conclusion: Ecological principles in education

Perhaps the most appropriate synonym for "environment" is "context." Just as good education is environmental, it is also contextual. As such, environmental education should provide the integrative context or framework within which any subject can be understood more completely. In this sense, environmental education is about the "big picture," which gives meaning and relevance to the various pieces of our jigsaw puzzle world. From this perspective, environmental education is truly an integrative study.

Each of the ecological principles described above illustrates characteristics that are relevant to all natural and cultural systems and thus are relevant to every subject that is taught in school. They are intended as a conceptual framework for understanding how the world works. In my workshops, I have found that once teachers are introduced to a concept and its ecological implications, they have no difficulty in identifying specific applications in their own subject areas.

Because of their universal applicability, when used collectively these principles provide a powerful conceptual tool for organizing a curriculum whose purpose is to teach "the connectedness of things." The teachers in one K-8 school designed their entire curriculum around a set of ten concepts including the above. Each concept was addressed in some form in every unit at every grade level. In the earlier grades, the concepts were presented in concrete terms through experiential activities and simple explanations. As the child advanced, each concept was fleshed out with increased understanding. The concepts became powerful bridges across which the transfer of learning occurred on a regular basis, because once a concept was learned in one subject it could be applied in five, or ten, or a hundred other areas. The result was an example of Jerome Bruner's spiral curriculum in which teachers and students "revisit these basic ideas repeatedly, building upon them until the student has grasped the full formal apparatus that goes with them."¹²

A brief word about the role of concepts in education. Having worked with teachers for more than twenty years, I have concluded that most do not understand the function of concepts in thinking and learning. In our fact-oriented educational system, the importance of concepts in the retention of information and the transfer of learning is still largely ignored, because it is not understood. Thus the tendency in environmental education—as elsewhere in the curriculum—is to provide students with lots of facts about the various environmental issues and assume that this will lead to better understanding and eventually to a change in behavior. I suggest that we have the cart before the horse. The first step is to provide students with the conceptual framework as a context for understanding the facts. To paraphrase the well-known Chinese

proverb: A concept is worth a thousand facts. The facts have their place, but they are not the starting point of learning.

In July 1980, the first international conference sponsored by the World Future Society chose as its theme, "Think Globally, Act Locally." This theme could well become the theme for what I think of as the "new" environmental education. We now recognize that virtually all of the environmental problems are global in nature, and that solutions which do not take into account this global context are doomed to failure. Ultimately, the goal of environmental education is to change the thinking of an entire generation of people. The first step toward thinking globally is for those of us who consider ourselves environmental educators to provide a comprehensive, integrated, conceptual framework that is appropriate to the task.

Notes

1. Arthur M. Schlesinger, Jr., *Cycles of American History* (New York: Houghton-Mifflin, 1986).
2. *Time* (January 2, 1989), p. 1.
3. Robert Ornstein and Paul Ehrlich, *New World, New Mind: Moving Toward Conscious Evolution* (New York: Doubleday, 1989).
4. Noel McInnis, *You Are an Environment: Teaching/Learning Environmental Attitudes* (Evanston, IL: The Center for Curriculum Design, 1972).
5. See Edward T. Clark, Jr., "The Role of Mindset in Global and Peace Education," *Holistic Education Review* 1, no. 4 (Winter 1988).
6. John Helfrich, "The Legacy of Edward Abbey," *Lake and Prairie* 30, no. 3 (May/June 1989).
7. Quoted in *The Home Planet*, edited by Kevin W. Kelley (Reading, MA: Addison Wesley, 1988).
8. Edward T. Clark, Jr., and John W. Colletta, "Ecosystem Education: A Strategy for Social Change," in *Quest for a Sustainable Society*, edited by James C. Coomer (New York: Pergamon Press, 1981).
9. Robert Augros and George Stanciu, *The New Biology* (Boston: Shambala, 1988).
10. Jeremy Rifkin, *Entropy* (New York: The Viking Press, 1980).
11. Milton Friedman and Rose Friedman, *Free to Choose* (New York: Harcourt Brace Jovanovich, 1980).
12. Jerome S. Bruner, *The Process of Education* (New York: Vintage Books, 1960).

Letter to the Review

Dear Editors:

I have a vision of "holistic education," and I would like to join or organize a network of like-minded people. I hope you will help me by printing this letter.

I see the educational product offered in a wide range of modalities, as is beginning to occur in healing/medicine. There could be institutions (schools and others), private practitioners, cooperatives, informal networks, etc. Emphasis would shift from answering questions to meaningful exploration of them. Details like names, dates, and formulas would be for those whose professions or inclinations mandated such knowledge, whereas fundamental ideas like life, color, rhythm, and symmetry would get most of the attention. Learning would be experienced as a natural and joyful aspect of being human, just as eating, sleeping, and sex (usually) are. The interconnectedness of knowledge would be apparent as well as its separability into "subjects." Prescription of curricula would be rare, and testing as we know it used only to insure professional competence.

I am a veteran of six years of graduate education and eight-plus years of college teaching. I am currently establishing a private practice as an educator embodying as far as possible the above principles. This is exciting but uncharted territory (at least, for me). If anyone can suggest an appropriate support group/association/network or is interested in participating in one, please contact me.

*Sincerely,
Ken Lebensold
7575 Sunkist Dr.
Oakland, CA 94605*

Reviews

Caring for America's Children

Edited by Frank J. Macchiarola and Alan Gartner

Published by the Academy of Political Science (475 Riverside Drive, Suite 1274, New York, NY 10115-0012), 1989. \$12.95

Reviewed by Ron Miller

America's children are in trouble. Overwhelming economic, political, social, and cultural forces are denying millions of our children the care and encouragement that their healthy development requires. This important new book documents these forces through extensive data, observations, and analyses. Together, its eighteen essays provide a broad cultural context often lacking in educational policy discussions. They draw a sobering picture of a culture in the process of destroying its young generation. Frank Macchiarola, president of the Academy of Political Science and co-editor of the book, accurately summarizes the contributors' conclusions:

The contributors to this volume make it eminently clear that the conditions of America's children have provoked a crisis of enormous proportions for the children, their families, and the nation. These problems call into question the suitability of some of the most important institutions that serve children, particularly schools. (p. 170)

In other words, this book suggests what holistic educators have been asserting for two hundred years—that the institution of schooling as it has been defined by modern societies does not serve the whole development of the child. In the past, family, church, and other institutions were perhaps capable of serving most children's needs, but it is clear that they are not doing so today. We desperately need a new model of education. Here is an historic op-

portunity for holistic education to offer its important insights to educational theory and practice.

This particular book does not itself offer a holistic model. I would call it instead a liberal-reformist approach reminiscent of Charles Silberman's landmark *Crisis in the Classroom* (1970) and similar foundation reports. Such works are genuinely concerned with human problems, but they do not offer truly creative, transformative solutions; for the most part, they do not question the domination of institutional bureaucracies but call for them to be more effective or efficient. Many of the authors here seem to assume—or explicitly propose—that government programs and government money are a primary solution to our social crisis. They are, I think, overly focused on economic growth (as though a rise in gross national product equals a rise in child welfare), or on national success in global competition. When they talk about individuals, their concern turns to saving "at-risk" youths, to job training, and to academic "excellence" or "quality instruction."

What is missing is any recognition that a post-industrial social order may turn to a more ecologically sane life-style, to other kinds of institutions such as worker co-ops and community land trusts to satisfy human needs in a way that our present massive bureaucracies cannot. The highest aim these authors seem to hold for education is to help people become happy workers and citizens; there is no recognition that education may nurture the inherent spirituality of every child, may connect the person to organic and transcendent levels of experience that give a far deeper significance and purpose to living.

Despite these shortcomings, the data presented in the book are a valuable resource. Ann Rosewater, staff director of the House Select

Committee on Children, Youth, and Families, gives a complete and concise picture of the plight of families today. In sixteen pages, she covers everything from divorce rates and the growing number of latchkey children to the development of a permanently impoverished underclass. The results include staggering increases in child abuse and children in need of counseling. Every one of us should know these facts. They are a snapshot of the world that our competitive, hierarchical society has created.

Joseph P. Viteritti, senior research scientist at the Urban Research Center, contributes a stimulating essay, "Urban Governance and the Idea of a Service Community," in which he shows how large public school bureaucracies have stifled community participation and staff empowerment in education. Nat Hentoff, author of *Our Children Are Dying* (an important critique of education in the 1960s), in "Anonymous Children/Diminished Adults," argues for a greater sense of purpose and human engagement in education.

An essay by Alan Gartner and Dorothy Kerzner Lipsky (both of the City University of New York) begins with promise by stating that the problems in education "require not minor changes but a new paradigm" (p. 149). They offer some thoughtful discussion on serving the unique needs of each learner—but my excitement at their proposing "a new paradigm" turned to disappointment when they ultimately proved to be most concerned with "the work and citizenship demands of the present" and seemed to endorse the American public's desire to have "the best education system in the world"—once again bowing to nationalistic competition as the ruling purpose of education. This is not a new paradigm, but the same materialistic, competitive one that has gotten us into so much trouble already.

James J. Digiaco, S.J., draws

attention to the materialistic and hypocritical values that are accepted by our culture and purveyed through the mass media: "As children see it, the main-springs of adult behavior are not justice, honesty, and self-discipline but aggression, greed, and self-indulgence" (p. 164). Diane P. Hedin follows up by observing that the self-centeredness of today's young people is a direct result of "the nature of the educational institutions, which are designed primarily to help some young people achieve at the expense of others" (p. 202); she says we should not wonder why students have lost the moral idealism of the 1960s, because in the past two decades "many adults have pressured young people to abandon antimaterialistic and politically progressive beliefs."

These and other essays constitute an urgent reminder that *educational* problems are, at root, *cultural* problems. Although the book does not offer holistic solutions to these problems, its focus on the cultural context of education is a major step toward an authentic holistic analysis of the modern crisis. This book can serve as a vital link between thoughtful progressives in the mainstream—who are increasingly willing to change the system in significant ways for the sake of human welfare—and holistic thinkers, who already have some significant changes in mind.

Working Papers: Reflections on Teachers, Schools, and Communities

By Vito Perrone
Published by Teachers College
Press (1234 Amsterdam Avenue,
New York, NY 10027), 1989.

*Reviewed by
Mary Ellen Sweeney*

Individual school staff and community members involved in educational reform efforts will be more

enlightened and prepared once they read, reflect, and dialogue about Vito Perrone's thoughts on equity and pluralism, progressivism in education, teacher education, school testing, curriculum and education and policy. All who are concerned about schools organizing for the optimum development of children's interests are indebted to Carmel Perrone for her insistence that her husband compile this collection of papers that span over the past twenty-year period. Many of the educational issues Dr. Perrone addressed over that time are questions that presently are being readdressed as schools "restructure," rethink and design systems of "schools of choice."

Dr. Perrone utilizes a comprehensive historical approach to analyze educational trends such as teacher education, progressive education, and open education. He points out the questions that should be asked when planning or redesigning goals for a school. For example, he states that schools should honor a child's intentions and that a child's interests should be the starting point for educational planning. He discusses the differences between individualized and personalized learning. Schools should be teaching children how to learn, how to "uncover" a subject rather than "cover" it. Schools need to turn learning outward to the community, so students will study culture for greater integration and relevance. Only then will students understand the geographical, social, political, and cultural makeup of communities and then perhaps be able to take steps to change the order of society at large.

The specificity and uniqueness of children would be focused upon, and teachers would become better observers of children. Children's uniqueness would be honored; and, on a more practical level, teachers would be able to anticipate their individual needs and be able to suggest ideas, ac-

tivities, and materials for particular children. Teacher education programs would once again emphasize child study, and case studies of children would be reintroduced. Diversity and pluralism would be valued, and schools would recruit more minorities, as well as persons with broad experiences and interests.

The governance of schools has become more complex as higher level administrators, greatly removed from educational settings, make decisions. Dr. Perrone clearly is calling for teachers, parents, and community members to become educational decision makers and to be involved collaboratively in authentic interaction on the local individual school building level. Principals are called upon to change gears and be involved more actively in instructional and classroom matters, interact more with students, and be the group process facilitator of the overall school-change endeavor. Principals are encouraged to give more support to teachers and to allow teachers greater autonomy.

The author suggests numerous innovative teaching strategies including: one teacher remaining with one group of students for two or three years, multi-age grouping, community resource development, parental involvement, small school size, reexamination and expansion of evaluation techniques, active use and accessibility of classroom materials, peer teaching, and school trips. The rationale for his suggestions is accompanied by practical descriptive applications for educators.

Several times, Dr. Perrone calls for the practitioner to record descriptive accounts of innovative practices. In *Working Papers*, he has made an invaluable contribution to the educational literature with his theoretical and descriptive accounts of the progressive educational topics previously listed. The timing for the release of these accounts could not be more appropriate and will provide main-

stream, progressive, and alternative educators much fuel for thought. The pieces of his vision of schooling emerge from his various papers, and he provides thoughts for all educators. Dr. Perrone dispels many of the myths surrounding earlier attempts at open education. His breadth of insight into teacher education lead me to suggest and hope that he contemplate sharing more of his thoughts and theoretical underpinnings on this topic in a future book or manuscript. I had not previously read about the six stages that a teacher encounters (see page 82), but I find this information intriguing and feel an elaboration of this information would be beneficial.

The questions pervading the educational milieu have remained constant for the past twenty years—or actually since the origins of American education. Vito Perrone explains and traces the philosophical premises and program applications of many progressive and alternative programs that have already organized and responded to the call for reform. He offers *logical* theory and *practical* thinking to solve many of the ills pervading American education today.

"Realizing the Promise of Humanistic Education: A Reconstructed Pedagogy for Personal and Social Change"

By Lee Bell and Nancy Schniedewind
Journal of Humanistic Psychology
29, number 2 (Spring 1989),
pp. 200–223. Published by Sage
Publications (2111 West Hillcrest
Drive, Newbury Park, CA
91320).

Reviewed by Ron Miller

It is unusual to review a single journal article, but this one de-

serves our attention. Bell and Schniedewind address what is probably the most fundamental divisive issue in holistic education: the split between the personal and the political. This division hampered the progressive education movement, when George S. Counts and the "social reconstructionists" called child-centered progressives "romantic" and dared them to be truly progressive.¹ Theodore Roszak addressed this problem in his excellent chapter on education in *Person/Planet*, where he spoke of the need to unite the "libertarian" political impulses of some radical educators with the more personal, human-potential concerns of others.² In my own research, I have traced the ongoing distinction between "radical" and "accommodating" holistic educators.³

Bell and Schniedewind do not cover the broad historical panorama (in fact, their interpretation of progressive education completely neglects its inner division), but they focus very keenly on two current movements—*humanistic education*, rooted in the nonpolitical, therapeutic approach of Carl Rogers, Abraham Maslow, Rollo May, and others; and *critical pedagogy*, a radical social critique found in the work of Paulo Freire, Michael Apple, Henry Giroux, and their colleagues. While humanistic educators "tend to view change in personal terms and assume that if individuals change, institutions will change" (p. 204), the critical theorists argue that "schools not only reproduce dominant social relations and interests but also provide a context within which people can become conscious of these constraints and act to resist them" (p. 208).

In order to have a real impact on our culture, holistic education must integrate the personal and the political. And this is exactly what the authors advocate. They argue that the humanistic emphasis on self-knowledge, affective awareness, and group skills really becomes "purposeful" and "con-

structive" when tied to an awareness of the problems of the social order (p. 210). Their article describes several facets of an integrated and meaningful education, including personal power, group support, critical awareness, and purposeful action. They list several curricula and publications that foster this integrated approach, and their reference list is an excellent resource for any educator who wants to delve into the literature of humanistic education, critical pedagogy, or (ideally) both.

The authors leave one big question unanswered, however, probably because of their limited attention to the historical perspective: How do they expect the American public to allow these subversive approaches into its schools? They quote one critical theorist who simply asserts that "learning and teaching . . . [for] human liberation" can indeed take place in "institutions created for social control" (p. 217), but the evidence for such optimism is scant. For two hundred years, American culture—consequently American education—has proven itself to be remarkably resistant to humanistic influences, and even more so to humanistic-political influences. The lesson seems to be that schooling does not change society; only a new society will adopt a new way of schooling. Let's not put the cart before the horse.

I heartily endorse Bell and Schniedewind's effort to integrate the personal and political, and for that reason I consider this article to be a potential watershed for the humanistic education movement. But I would add that integrating a political critique (or, as I would describe it more broadly, a *cultural critique*) into holistic education does not guarantee success, it only makes us more aware of what the real stakes are. Holistic education without a cultural awareness quickly becomes (in the pejorative sense) merely "romantic" and is easily diluted and absorbed by the mainstream; this has happened

over and over again—progressive education has been reduced to portable desks and "life-adjustment" nonsense, and humanistic education may end up developing self-esteem in aspiring corporate raiders. But holistic education *with* a radical social agenda poses much more difficult questions about how this culture values human life; it cannot be digested so easily.

I do not think the critical-humanistic approach will soon be welcomed in public education on any large scale, but I do think that if we continue to ask the difficult questions it raises, we can point the way toward a transformed culture that would welcome it. The indus-

trial age is crumbling, and something is going to take its place. Hopefully, a holistic vision will characterize the post-modern era. But it will not be automatic; we have to ask hard questions of our culture, as Bell and Schniedewind have suggested in this article.

Notes

1. George S. Counts, *Dare the School Build a New Social Order?* (New York: John Day, 1932).
2. Theodore Roszak, *Person/Planet: The Creative Disintegration of Industrial Society* (Garden City, NY: Anchor/Doubleday, 1978), chapter 7.
3. Ron Miller, *What Are Schools For? Holistic Education in American Culture* (in press).

Fall Conferences

September 22–24; Yorktown Heights, New York
"Nurturing Families in a World of Conflict"

Leadership training weekend for parents, educators, and other professionals who work with families. An interfaith approach, led by Kathy and Jim McGinnis, founders of the Parenting for Peace and Justice Network.

Contact: Beaver Conference Farm, Underhill Ave., RD #3, Yorktown Heights, NY 10598

October 27–30; Santa Fe, New Mexico

"Different Pathways—One World"; Association for Experiential Education 17th National Conference

This conference will explore the common ground among seemingly divergent philosophies and other cultures' pathways to understanding. Presentations will encompass the basics in theory and technique of experiential education and will explore the many roles of experiential educators. Keynote speakers are William Sloane Coffin, Jr., and Sara Lawrence Lightfoot.

Contact: John Braman, Conference Convener, Albuquerque Academy, 6400 Wyoming Blvd. NE, Albuquerque, NM 87109; (505) 828-3246.

November 3–6; Atlanta, Georgia

National Association for the Education of Young Children—annual conference, 600 seminars, workshops, and presentations.

Contact: NAEYC, 1834 Connecticut Ave. NW, Washington, DC 20009.

Holistic Education Review reprint service.

Articles that appear in *Holistic Education Review* are available in reprints in any quantity. Please write us for details and prices: P.O. Box 1476, Greenfield, MA 01302.

Resources in Holistic Education

(We invite readers to send in information about additional groups and publications.)

Networks and Organizations

Association for Childhood Education International
11141 Georgia Ave., Suite 200
Wheaton, MD 20902

A professional association that advocates developmentally appropriate curricular materials. Offers a variety of publications on educational topics, including *Learning Opportunities Beyond the School*, a comprehensive resource guide for parents, teachers, and other child care givers that contains practical ideas for facilitating learning in multiple settings.

Association for Humanistic Education
P.O. Box 923
Carrollton, GA 30117

Sponsors annual conferences, journal, and newsletter. Members include public school educators and others with a broad interest in human relations and human potential issues.

Association of Progressive Helping Professionals
175 West 72 St.
New York, NY 10023

A growing network of activists in education and the helping professions who seek to change "the oppressive and anti-humanistic institutions that undermine community empowerment and human development." Sponsors active campaigns; publishes books, a newsletter, and *Practice: The Journal of Politics, Economics, Psychology, Sociology and Culture*.

Cooperative Learning Center
200 Pattee Hall
University of Minnesota
Minneapolis, MN 55455

Disseminates research and sponsors teacher training in cooperative educational methods developed by David and Roger Johnson.

Institute for Democracy in Education
1241 McCracken Hall
Ohio University
Athens, OH 45701-2979

Brings together educators and parents to explore how education can prepare students as democratic citizens—through democratic methods of teaching. A grass-roots organization with no political affiliation. Publishes the quarterly journal *Democracy and Education*, a newsletter, and other publications; sponsors workshops and institutes, resource center, and speakers bureau.

Institute for Learning and Teaching
449 Desnoyer
St. Paul, MN 55104

Provides training in brain-compatible education methods, assists schools and districts with decentralized decision making and staff development, and publishes the newsletter *The Brain Based Education Networker*. Also publishes *Fine Print*, a newsletter that promotes experiential learning and choice in education. (For information on *Fine Print*, contact Joe Nathan, 1852 Pinehurst, St. Paul, MN 55116.)

Institute for Responsive Education
605 Commonwealth Ave.
Boston, MA 02215

Promotes equity in education; explores the variety of social and educational issues involved in providing quality education to all segments of American society. Publishes the journal *Equity and Choice*.

International Alliance for Invitational Education
c/o School of Education
University of North Carolina
Greensboro, NC 27412

Invitational Education is a humanistic approach based in large part on the work of William Purkey. It encourages the development of human potentials through a cooperative, "inviting" educational approach that nurtures self-esteem and personal growth. The Alliance offers a newsletter, books, and other publications as well as networking, workshops, and special activities.

International Association for Integrative Education
C.P. 345, 1290 Versoix (GE), Switzerland

Explores ways for education to address the ecological, intellectual, and spiritual crises of the modern world. Seeks to "provide opportunities for personally relevant and socially constructive learning" for adults and young people.

International Association for the Study of Cooperation in Education
136 Liberty St.
Santa Cruz, CA 95060

Promotes the study and practice of cooperative methods, where students work together in learning teams, and where educators support each other as well. Newsletter *Cooperation in Education* has insightful articles and resource listings. Conflict resolution and peace education are also addressed.

Learning Styles Network
St. John's University
Grand Central Parkway
Jamaica, NY 11439

Supports the application of learning style research in educational settings. Encourages teachers to become familiar with the different learning styles of individual students, as well as their own teaching styles. Publishes newsletter, research guide, software, and other materials. Sponsors conferences.

National Association for Core Curriculum, Inc.
404 White Hall
Kent State University, Kent, OH 44242

Promotes interdisciplinary, unified, integrated, "block-time" studies in the secondary curriculum. Conferences, publications, and films.

National Association for the Education of Young Children
1834 Connecticut Ave. NW
Washington, D.C. 20009

A network of people committed to fostering the healthy growth and development of children from birth through age eight. Advocates developmentally appropriate educational methods for young children. Publishes journal, books, brochures; sponsors conferences, local groups, information service.

National Association for Mediation in Education
425 Amity St., Amherst, MA 01002

Promotes the teaching of conflict resolution skills, programs for peer mediation. A national clearing house for publications, curriculum guides, and information on conflict resolution programs already in action. Publishes bibliography and directory, newsletter, reports.

National Coalition of Alternative Community Schools
58 Schoolhouse Rd.
Summertown, TN 38483

A network of parent cooperatives, free schools, home schoolers. Facilitates student exchanges and travel. Sponsors annual and regional conferences, a journal (*Skole*), and a newsletter. Has published a directory of member schools with a resource listing.

National Peer Helpers Association
2370 Market St., Room 120
San Francisco, CA 94114

Establishes effective peer helping programs in schools and agencies throughout the country.

Network of Progressive Educators
P.O. Box 6028
Evanston, IL 60204

A new organization for educators from public and private alternative, open, and progressive schools. Aims to bring together all those who identify with progressive ideas, with a focus on teachers and children's learning.

New Horizons for Learning
4649 Sunnyside North
Seattle, WA 98115

Publishes *On the Beam*, which describes the latest research in learning and thinking skills; also a clearinghouse for seminars, workshops, and ideas for applying these findings. Sponsors extraordinary conferences.

Northeast Foundation for Children, Inc.
Box 1024
Greenfield, MA 01302

Workshops and consulting to help schools set up developmentally appropriate curriculum, based on the work of the Gesell Institute. *A Notebook for Teachers* describes this approach.

Renaissance Educational Associates
4817 North County Road 29
Loveland, CO 80537

An international membership association of educators and parents who know that their example of creative living invites others into meaningful and purposeful lives. Publishes *The Renaissance Educator* quarterly, sponsors an annual membership conference, hosts local activities in thirty places around the world, and offers a professional leadership institute each summer.

Publications for Educators and Parents

Center for Teaching and Learning
Box 8158
University of North Dakota
Grand Forks, ND 58202

Publishes journals on progressive and open classroom approaches, as well as a series of research papers.

Changing Schools
Teachers College 918
Ball State University
Muncie, IN 47306

A newsletter/journal on alternative schools, including public school programs.

Childhood—The Waldorf Perspective
Nancy Aldrich
Route 2 Box 2675
Westford, VT 05494

Quarterly journal that covers Waldorf and other holistic forms of parenting,

schooling, and home schooling. Includes information on philosophy, kindergarten, nature study, curricula, arts, music, craft projects from natural materials, festivals, resources, and networking information.

Consortium for Whole Brain Learning
461 Ohio St.
St. Paul, MN 55107

A small newsletter, published four times during the school year, with ideas and resources for addressing the various learning styles. \$6 per year.

Creation
P.O. Box 19216
Oakland, CA 94619

A bimonthly magazine that brings together art, science, and the spiritual/mystical tradition in a stimulating holistic paradigm for the revision of our culture.

Emily's Woods Children's Literature
Quarterly
RD 1 Box 370
Huntington, VT 05462

A new publication for parents and teachers of four- to eight-year olds. Each issue focuses on an author or illustrator of children's books and gives a variety of "across the curriculum" activities that involve the author's books.

Family Reader Magazine
P.O. Box 534
Onalaska, WI 54650-0534

An alternative parenting digest that reprints exceptional articles from more than forty newsletters and magazines. Regular coverage of home schooling and alternative schooling is included. Bimonthly, \$15 per year. \$3 for sample copy.

Green Teacher
McKeever Environmental Learning Center
RD 3, Box 121
Sandy Lake, PA 16145

Published in Britain by the Centre for Alternative Technology. Focuses on environmental education, organic and ecological principles, renewable energy, peace education.

Henry George School of Social Science
121 East 30th St.
New York, NY 10016

Publishes "Land and Freedom," a series of self-contained lessons in land use, economics, and history for high school social studies and "Understanding Economics," a nine-part audiovisual series. Offers a summer institute and workshops for teachers.

Limbic Plus
Jenzen Kelly Associates, Inc.
32260 88th Ave.
Lawton, MI 49065

A bimonthly newsletter about the educational implications of recent research on the brain, consciousness, and learning. Includes features on life-long learning, educational resources, exemplary teachers and more.

Mothering
P.O. Box 1690
Santa Fe, NM 87504

Probably the leading publication on holistic approaches to parenting. Comprehensive coverage and handsome graphics. Available in many bookstores.

Nurturing Today
187 Caselli Ave.
San Francisco, CA 94114

Covers a wide variety of parenting issues, including unusual and difficult topics such as "families of prisoners" and "men and aging." *NT* gives special attention to fathering (in fact it is affiliated with the Fathers' Exchange, which offers books and films). Quarterly, \$16 per year.

Priority Parenting Publications
P.O. Box 1793
Warsaw, IN 46580-1793

Priority Parenting is a monthly newsletter on concerns such as immunization, television, war toys, single parent issues, and more. *Not on the Newsstands* is a resource book listing of more than 125 publications on birth, parenting, alternative lifestyles, and home careers.

Public School Montessorian
Jola Publications
230 10th Ave. South
Minneapolis, MN 55415

Examines the application of Montessori education in public school settings. Addresses issues of child development, teacher preparation, public education policies, and more. A good resource for non-Montessori trained parents and educators who want to understand Montessori principles. Quarterly, \$12 per year for individual; \$20 for parent group (20 copies of each issue).

Rethinking Schools
P.O. Box 93371
Milwaukee, WI 53202

An independent educational journal/newspaper published by educators in Milwaukee area public schools. Examines a wide scope of problems in today's education, including urban social problems, standardized testing, reading methods, and many issues of interest to parents as well as educators.

Publications for Children

Images of Excellence

P.O. Box 1131
Boiling Springs, NC 28017

Who are the heroes of today's young people? This bimonthly, full-color magazine shows students concrete examples of lives built upon character, integrity, and excellence. Recent issues have focused on Martin Luther King, Thomas Jefferson, and Mother Teresa.

KidsArt News

P.O. Box 274
Mt. Shasta, CA 96067

A lively newsletter filled with creative activities for elementary-age children, informative features on important artists and art styles, and contributions and responses from kids themselves. Includes folk art from many cultures. Published quarterly, \$8.00 per year.

Meryl's Pen

P.O. Box 1058
East Greenwich, RI 02818

A magazine of children's creative and serious writing and poetry.

Skipping Stones

80574 Hazelton Rd.
Cottage Grove, OR 97424

This "multi-ethnic children's forum" truly brings global education to life. Gathering together poetry, stories, essays, drawings, and photos from young people of all ages and many countries, *Skipping Stones* gives children a rare opportunity to share their thoughts, feelings, experiences, and questions with young people of other cultures. Quarterly, \$15 per year.

Montessori and Waldorf Education

American Montessori Society

150 Fifth Ave.
New York, NY 10011

Publishes *The Constructive Triangle* about the Montessori movement in the U.S. Also supervises teacher-training programs and accreditation of schools; sponsors workshops and conferences.

Association Montessori Internationale

1095 Market St.
San Francisco, CA 94103

American branch of the teacher training and accreditation organization originally founded by Maria Montessori in 1929.

Association of Waldorf Schools of North America

17 Hemlock Hill
Great Barrington, MA 01230

Directory of Waldorf schools and teacher training.

International Montessori Society

912 Thayer Ave.
Silver Springs, MD 20910

Publishes *The Montessori Observer* and *Montessori News*. Offers teacher training and conferences. A network of independent schools using a broader interpretation of Montessori's ideas.

Rudolf Steiner College

9200 Fair Oaks Blvd.
Fair Oaks, CA 95628

Two-year Waldorf teacher training, as well as adult Arts Program and an ongoing program of lectures, workshops, and courses.

Waldorf Institute

260 Hungry Hollow Rd.
Spring Valley, NY 10977

Two-year Waldorf teacher training and early childhood program, Life Forms Sculpture Program, and School of Eurhythmy. Evening program and courses.

Waldorf Teacher Training Program

Antioch/New England Graduate School
Roxbury St.
Keene, NH 03431

Peace and Global Education

American Friends Service Committee

1501 Cherry St.
Philadelphia, PA 19102

Offers the publication *Peace Education Resources* and other materials.

Association for Humanistic Psychology

325 Ninth St.
San Francisco, CA 94103

Sponsors exchanges of American and Soviet educators and psychologists.

Birthday Friends for Peace

P.O. Box 15514
Pensacola, FL 32514-5514

Matches American and Soviet students (adults can be matched, too) by their birthday. Send a 3x5 card with name and information about yourself, and they will find a pen pal in the USSR. (Service is free, but a small donation is appreciated.)

Canadian Peace Educators' Network

c/o The Pembina Institute
P.O. Box 839
Drayton Valley, Alberta T0E 0M0, Canada

An information and resource exchange network. Publishes a national directory and a quarterly newsletter that explores peace education issues on an international scale and includes an extensive resource listing.

Center for Cross-cultural Education

College of Education
Georgia State University
Atlanta, GA 30303-3083

Has published seven volumes on educational issues from an international perspective. The most recent volume examines educational reform movements in five countries, including the U.S. and U.S.S.R.

Children Around the World Resource

Center
P.O. Box 40657
Bellevue, WA 98004

Assists teachers and schools (grades 1 through 9) in making connections with their peers in other countries for the exchange of letters and artwork. Also currently developing "International Packets" with slides, songs, and stories from various cultures. The newsletter *Courier* gives ideas and news from around the world.

Children's Creative Response to Conflict

Box 271
Nyack, NY 10960-0271

Offers activities, publications, workshops, and courses to help teachers as well as children learn skills of cooperation, communication, affirmation, conflict resolution, and mediation. A holistic, experiential approach dealing with the roots of conflict. Affiliated with Fellowship of Reconciliation, has related programs in several places in North America.

Consortium on Peace Research, Education and Development

911 West High St., Room 100
Urbana, IL 61801

Reference and curriculum materials for educators.

Educators for Social Responsibility

23 Garden St.
Cambridge, MA 02138

Curricular materials on nuclear issues, conflict resolution. Sponsors teacher workshops. (ESR Metro New York Office offers additional materials, including an information packet on the model peace education program in community school district 15. Write ESR Metro, 490 Riverside Drive, New York, NY 10027.)

Global Cooperation for a Better World
P.O. Box 325
Boston, MA 02146

Offers "Co-operation in the Classroom"—a project for teachers.

Global Education Associates
475 Riverside Dr., Suite 456
New York, NY 10115

Produces an extensive list of books, monographs ("The Whole Earth Papers"), filmstrips, audio and video cassettes, as well as the excellent magazine *Breakthrough*. Explores alternative solutions to international conflicts and advocates cross-cultural understanding.

Little Friends for Peace
4405 29th St.
Mt. Ranier, MD 20712

Offers a variety of workshops and retreats for teachers, parents, and child-care providers, including "Creating Peace in the Family," "Parenting/Teaching for Peace and Justice," and more. Has published *Creating a Peace Experience*, a resource and curriculum guide for setting up a peace day camp, and *Peacemaking for Little Friends*, which offers clusters of activities around twelve themes and a bibliography.

Martin Luther King Jr. Center for Nonviolent Social Change, Inc.
449 Auburn Ave.
Atlanta, GA 30312

Curricular materials for students in primary grades through high school are available. Write for a catalogue.

Nuclear Age Peace Foundation
1187 Coast Village Rd., Suite 123
Santa Barbara, CA 93108

Publishes a series of booklets on "Waging Peace" that cover a broad range of important issues, written by leading thinkers in peace studies, as well as a new book, *Waging Peace*. Also sponsors a high school essay contest.

Parents and Teachers for Social Responsibility
Box 517, Moretown, VT 05660

Publications, conferences, and special projects to promote a safer, saner world for all children. Publications include *What About the Children?* and *With Her Smile She Broke the Cold* (a book for young people about Samantha Smith). Also offers production materials for the musical play *The Heart of the Mountain*, and information on EarthPatch, a program that fosters cultural awareness and a sense of responsibility for one's own patch of the Earth.

Peace Education Program
Box 171
Teachers College
Columbia University
New York, NY 10027

Publisher of books (*Comprehensive Peace Education*; *Educating for Global Responsibility*; and others) and other materials; also sponsors international institutes and seminars.

Peace Links
747 8th St. SE
Washington, D.C. 20003

Dedicated to public education about peace and nuclear issues. Has put together information and resource kits for parents, educators, and young people entitled "Celebrate Peace," "Reach for Peace," "Understanding the Soviets," and "Global Awareness." Publishes *Student Action Update* and *Connection* newsletters, sponsors exchanges and other programs.

Youth Ambassadors of America
P.O. Box 5273
Bellingham, WA 98227

Sponsors exchanges of American and Soviet children and educators, as well as other cross-cultural experiences. Publishes *The Bridge*, a stimulating newspaper for young people.

Home Schooling

Brook Farm Books
P.O. Box 277
Lyndon, VT 05849

Features *The First Home-School Catalog* (\$8.00, postpaid) and *The Home School Challenge* (\$8.95 plus \$1.00 postage).

Holt Associates
Contact: Pat Farenga
2269 Massachusetts Ave.
Cambridge, MA 02140

National network, resource center. Publishes *Growing Without Schooling* newsletter.

Home Education Magazine
P.O. Box 1083
Tonasket, WA 98855
(509) 486-1351

Comprehensive coverage of social and philosophical issues in the home schooling movement, plus practical ideas and resources available to parents and activity pages for kids. Bimonthly; \$24 per year. Sample copy \$4.50.

National Homeschool Association
P.O. Box 167
Rodeo, NM 88056

A networking organization dedicated to strengthening the home schooling movement. Individual membership is \$5 per year. Membership includes a quarterly newsletter, access to all services (family travel program, student exchange program, apprenticeship program, resource referral service, and special interest clubs), and the opportunity to participate in the annual camp-out/organizational meeting.

Book Publishers (Offering catalogs filled with resources for holistic educators and parents.)

Anthroposophic Press
Bell's Pond, Star Route
Hudson, NY 12534

The most complete selection of books on Rudolf Steiner's philosophy and the Waldorf educational approach.

Bergin & Garvey
670 Amherst Rd.
Granby, MA 01033

Paulo Freire's works, including *The Politics of Education* and others; also *The Moral and Spiritual Crisis in Education*; *Education and the American Dream*; and other social-political studies of education; anthropological approaches to childbirth; and other subjects.

Brown Publishing Co.
P.O. Box 539
Dubuque, IA 52001

Has published *Cooperative Learning*, *Cooperative Lives: A Sourcebook of Learning Activities for Building a Peaceful World* and distributes curriculum guides on global education and American social issues published by the Center for Learning. Also offers an extensive catalog of books on Catholic religious education, including works on peace education from a religious perspective.

Home Education Press
P.O. Box 1083
Tonasket, WA 98855
(509) 486-1351

Publishes books on home schooling and alternative education, including *Alternatives in Education*, *The Home School Reader*, and *The Home School Primer*. Also publishes *Home Education* magazine. Free 16-page catalog.

Interaction Book Company
7208 Cornelia Dr.
Edina, MN 55435

Publishes books, videos, films, and monographs on the cooperative learning methods developed by David and Roger Johnson at the University of Minnesota. Includes theory, research, and practical application of cooperative learning.

Jalmar Press
45 Hitching Post Dr., Bldg. 25
Rolling Hills Estates, CA 90274-4297

Resources for teachers, parents, and children on nurturing self-esteem, peace, and creative (integrating right and left brain) learning and thinking. Catalog includes important works by Jack Canfield, Barbara Meister Vitale, and Bob Samples.

Mountain Meadows Press
P.O. Box 447
Koskia, ID 83539

Has recently published two books of interest: *The Interactive Parent: How to Help Your Child Survive and Succeed in the Public Schools* by Dr. Linwood Laughy, and *Home School: Taking the First Step* by Borg Hendrickson.

National Women's History Project
P.O. Box 3716
Santa Rosa, CA 95402

Catalog features curriculum resources, reference books, publications for children, and other materials that focus on a multicultural approach to women's history.

New Society Publishers
Box H
4527 Springfield Ave.
Philadelphia, PA 19143

Books on peace and nonviolent social change, including several titles for educators and young people.

Ontario Institute for Studies in Education
252 Bloor St. West
Toronto, Ontario M5S 1V6, Canada

Titles include *The Holistic Curriculum* by John P. Miller and many works on Canadian education, French (and English) as a second language, and classroom activities. OISE also publishes several education journals.

Open Court Publishing Company
315 Fifth St.
Peru, IL 61354

Publishes *Cricket* magazine and many books for young readers as well as educators. Recently published the *Open Court Reading and Writing* program for the elementary grades, designed by leading educational researchers to integrate reading, writing, and language skills.

Resource Publications, Inc.
160 East Virginia St., #290
San Jose, CA 95112

Books with emphasis on cooperative activities and communal celebrations, both for families and for educators. Recent titles include *Learning to Live Together at Home and in the World* and *Making Art Together Step-by-Step*.

S.A.L.T. (Society for Accelerative Learning and Teaching)
P.O. Box 1216 Welch Station
Ames, IA 50010

1989 International Resources directory contains listings of workshops, books and curriculum materials, periodicals, and other resources related to accelerative learning (based on the Lozavov "superlearning" approach, which uses relaxation techniques and other non-traditional methods). \$10.

Sudbury Valley School Press
2 Winch St.
Framingham, MA 01701

A series of books and booklets that describe day-to-day life at an innovative alternative school, as well as the radical child rearing philosophy which guides it. Current titles include *Free at Last*, *The Sudbury Valley School Experience*, and *Child Rearing*.

SUNY Press
State University Plaza
Albany, NY 12246-0001

Current catalog "New Visions for a Distinguished Profession . . . Education" includes several titles of interest, including *Education, Modernity, and Fractured Teaching* by Donald W. Oliver.

Teachers College Press
Teachers College, Columbia University
1234 Amsterdam Ave.
New York, NY 10027

A long list of important titles includes books by Douglas Sloan, an important writer in holistic education, and Betty Reardon on peace education.

University of the Trees Press
Box 66, Boulder Creek, CA 95006

Learning materials for teaching the whole child, including step-by-step books full of photos and illustrations, and tapes that teach children visualization and meditation. Newest book, *The Ultimate Kid*, was said by *East West Journal* to be "among the most enlightening of the new teaching books."

Zephyr Press
430 South Essex Lane, Dept. N7B
Tucson, AZ 85711

Bi-annual newsletter on issues "at the forefront of education and learning." Lists many relevant books and curricular guides for sale, and includes network information.

Children's Rights and Welfare

Children's Defense Fund
122 C St. NW
Washington, D.C. 20001

A national organization advocating for children when critical policy decisions are made that affect their lives. Seeks to educate the nation about the needs of children, particularly poor, minority, and handicapped children, and to encourage social investment in preventive programs. Addresses issues such as teen pregnancy, child care, education, mental health, foster care and adoption, and child abuse. Sponsors conferences, supports local children's advocates, and publishes the monthly newsletter *CDF Reports*, as well as a wide range of books and papers, including *A Vision for America's Future . . . A Children's Defense Budget*, *Vanishing Dreams: The Growing Economic Plight of America's Young Families*, and *Unclaimed Children*.

Child Welfare League of America
440 First St. NW, Suite 310
Washington, D.C. 20001

A coalition of hundreds of public and private children's service agencies, community groups, foundations, corporations, and associations. Seeks to prevent the victimization and abuse of children by influencing public policy, supporting programs for children, and advocacy. Covers issues such as adoption and foster care, day care, runaways, abuse, teen parenting, and delinquency prevention. For almost seventy years, has set standards for the quality of child care in the U.S. Conducts research for agencies, legislators, the media, and the public. Sponsors special educational and advocacy programs such as the 1988 Children's Presidential Campaign.

Elementary School Center
2 East 103 St.
New York, NY 10029

Supports the elementary school as "the locus of advocacy for all children." Sponsors and disseminates research and discussion of issues facing elementary schools and their importance in the life of the child. Conferences and publications.

End Violence Against the Next Generation, Inc.
977 Keeler Ave.
Berkeley, CA 94708

National network disseminates information and research about the use and effects of corporal punishment. "The time has come to cease training our children in violence." Publishes newsletter and booklets.

Family Violence Research Program
Family Research Laboratory
University of New Hampshire
Durham, NH 03824-3586

Over the past two decades, this program has conducted important research on family violence. Distributes reprints of their studies and other resources.

Kidsrights
3700 Progress Blvd.
Mount Dora, FL 32757

Publishes a catalog offering books, pamphlets, curriculum materials, videos, games, and play therapy materials dealing with children's rights and family violence. For children and adolescents, parents, educators, and therapists.

National Child Rights Alliance
P.O. Box 17005
Durham, NC 27705-0005

Supporting victims of child abuse and neglect, this organization aims to "have a significant impact on the social, cultural, and political fronts which have traditionally neglected the victims of abuse." Publishes the quarterly newsletter *The Freedom Voice*.

National Coalition to Abolish Corporal Punishment in Schools
750 Brooksedge, Suite 107
Westerville, OH 43081

A coalition of many national and local groups striving to outlaw the practice of corporal punishment in schools. Coalition fact sheet points out that the U.S. is one of the few Western nations that still allows physical punishment of children by educators.

National Coalition of Advocates for Students
100 Boylston St., Suite 737
Boston, MA 02116

NCAS is a network of experienced child advocacy organizations working on issues of access and equity in public schools. NCAS is the only nationwide coalition working full time to protect the educational rights of at-risk students. Their goal is fair and excellent public schools for all children.

National Coalition on Television Violence
P.O. Box 2157
Champaign, IL 61820

Concerned with the effects on children (as well as adults) of television's—and other media's—sensationalistic portrayal of aggression and violence, drug and alcohol abuse, and "callous," abusive sexuality. Promotes research on media's impact on children, and calls for legislation to reduce television violence and to encourage appropriate children's programming.

National Committee for the Prevention of Child Abuse
332 South Michigan Ave.
Chicago, IL 60604-4357

Offers a catalog of publications on the causes and prevention of child abuse.

National Exchange Club Foundation for the Prevention of Child Abuse
3050 Central Ave.
Toledo, OH 43606

Coordinates a national network of centers across the U.S. that provide trained volunteer parent aides to work with families in which child abuse or neglect is occurring or in danger of occurring. Centers also offer parenting classes, food and clothing assistance, phone crisis service, information and referral, and assistance in developing Parents Anonymous chapters. Currently there are about fifty such centers in operation.

Parents and Teachers Against Violence in Education
560 South Hartz Ave., #408
Danville, CA 94526

An international children's rights advocacy organization "promoting the opinion that every child has the right to an education which is free from fear or violence." PTAVE publishes an informative booklet, with facts and arguments against corporal punishment, and a comprehensive listing of resources. Maintains an archive on corporal punishment and other forms of human rights violations against children.

People Opposed to Paddling Students, Inc.
P.O. Box 19045
Houston, TX 77224-9045

Calls for the outlawing of corporal punishment, which it considers a form of child abuse. Quarterly newsletter contains news clippings on corporal punishment issues.

Environmental and Experiential Education

Association for Experiential Education
Box 249-CU
Boulder, CO 80309

Promotes educational approaches that engage the person in outdoor adventure and hands-on learning experiences. Publishes the *Journal of Experiential Education*.

Institute for Earth Education
Box 288
Warrenville, IL 60555

Develops and disseminates focused educational programs that help build an understanding of, appreciation for, and harmony with the Earth and its life; conducts workshops; publishes a seasonal journal; hosts an international conference; supports regional branches; publishes books and program materials.

National Audubon Society Expedition Institute
Northeast Audubon Center
Sharon, CT 06069

Wilderness programs for high school and college students and adults. Students form a cooperative travelling community for year-long, semester, and summer expeditions. Academics, arts, and ecology are learned through this experiential, holistic approach. Also offers B.S. and M.S. degrees in Environmental Education in conjunction with Lesley College.

National Society for Internships and Experiential Education
3509 Haworth Dr., Suite 207
Raleigh, NC 27609

A community of organizations and individuals concerned with "the effective use of experience as an integral part of education." Explores issues such as critical teaching and empowerment, service learning, participation in community affairs. Professional development, conferences, and publications (newsletter *Experiential Education*; also *Service Learning: An Annotated Bibliography*).

Outward Bound USA
384 Field Point Rd.
Greenwich, CT 06830

The largest and oldest adventure-based education organization in the U.S. Programs for youth, adults, and those with special needs, in a variety of wilderness and urban settings.

Vermont Institute of Natural Science
Woodstock, VT 05091

Publishes *Hands-on Nature: Information and Activities for Exploring the Environment with Children*.

