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Teaching the 3 R's Through the 3 C's: Connecting, Curriculum & Community*

By Clifford E. Knapp

The exploration of the educational potential of communities through direct experiences is not a new idea. In 1912 naturalist, John Burroughs, wrote: "...The way of knowledge of Nature is the way of love and enjoyment, and is more surely found in the open air than in the schoolroom or the laboratory" (Burroughs, In Finch & Elder, 1990, p. 275). In 1915 educator and philosopher, John Dewey, re-published some earlier speeches in his book, *The School and Society*. He wrote: "We cannot overlook the importance for educational purposes of the close and intimate acquaintance got with nature at first hand, with real things and materials, with the actual processes of their manipulation, and the knowledge of their social necessities and uses" (p. 11). Why has it taken so long for educators to expand their concept of classrooms to include community outdoor laboratories?

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Today, many innovative educators are venturing into the community to energize and reform the instructional program and their own teaching lives. Why are they doing this? Evidence from current cognitive research has shown that the human brain has two primary memory systems. First, the spatial system allows for "locale" or natural memory of past experiences in three-dimensional space and is enriched over time as humans increase their categories for storing information. Second, the "taxon" memory system is used for rote learning of isolated facts and skills and requires more practice and rehearsal for retention. Outdoor learning usually capitalizes upon the personal worlds of learners by engaging their locale memory systems through direct experiences within a nearby context. Humans understand and remember best when facts and skills



Birthplace of John D. Rockefeller. Photo: C. Yapple

are embedded in this memory system (Caine & Caine, 1994, pp. 41-46).

Howard Gardner, a psychologist, author and educator, has identified eight human intelligences that have been used by some schools to plan balanced student learning experiences. Recently, he described the naturalist intelligence that meets eight stringent criteria, including an identified location in the brain and documented experimental data gathered by cognitive psychologists (Roth, 1998, pp. 9-11). The naturalist intelligence accounts for how people recognize patterns in nature and culture, classify objects, and understand relationships in their environment. It is "...the human ability to discriminate among living things...as well as [demonstrate a] sensitivity to other features of the natural world" (Roth, 1998, p. 7). Trips to local areas outside the school can develop this intelligence and result in long-term knowledge acquisition and retention.

Current educational reform efforts include providing students with authentic experiences and assessments. Educational authenticity simply means creating more realistic learning situations that mirror what others are doing in the community. Some educators also advocate a philosophical approach called constructivism -- instructional strategies based on research about how people learn. This involves students actively learning and explaining their reasoning behind how they arrive at answers to questions of importance. Constructivism incorporates the support of groups of learners engaged in problem solv-

ing, reflecting, and connecting the lessons to prior knowledge and past experience.

Another educational trend relates to bioregional education or place-based pedagogy (Woodhouse & Knapp, 2000). As urbanization and information technologies increase, the innate, genetically programmed human need to relate to natural places has emerged from our ancient past. The scientist, E.O. Wilson, named this human affinity for nature "biophilia." Some educators believe that without a sense of place, students cannot fully know who they are and how they fit into the community. Most suburban and urban students and teachers don't know where their drinking water originates, can't identify many native trees or birds, don't know whether the moon is waxing or waning, or have never seen the stars over the city. How can people feel whole without an awareness of their bioregion's natural cycles and processes? Many youth are growing up with little firsthand knowledge of where they live and, therefore, don't know their ecological addresses or understand how their ecological footprints relate to their consumptive lifestyles. The only field trips many urban and suburban youth take are via the software programs chosen for their computers. Learning, conducted in the context of the communi-

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ty, helps students to better comprehend the relationship of the school curriculum to more of life's pleasures and problems.

Another educationally relevant field has been labeled, "ecopsychology" or "conservation psychology" -- the combination of ecology or conservation with psychology. One principle advanced by ecopsychologists is that humans need natural spaces to relieve the modern-day stresses of crowded and fast-paced living. Breathing clean air, viewing green plants, and caring for and observing animals can improve mental health and reduce some forms of stress and depression. Educators have only begun to understand the importance of direct contacts with the green islands located within steel and concrete dwelling places.

One of the most promising new outdoor educa-



tion studies resulted from a twelve-state research project funded by the Pew Charitable Trusts and conducted by Gerald Lieberman and Linda Hoody. The study described the common features of instructional "best practices" and the factors leading to student learning in forty K-12 schools across the United States. These schools were selected because their teachers used natural and socio-cultural environments as integrating contexts (EIC) for learning.

Evidence gathered from this study... indicates that students learn more effectively within an environment-based context than with a traditional educational framework... EIC appears to significantly improve student performance in reading, writing, math, science and social studies, and enriches the overall school experience. (Lieberman & Hoody, 1998, p.2).

Although more research is always needed, this study provides some support for teachers who believe that the community can be the best laboratory for learning and applying certain educational goals, standards, and benchmarks.

For at least two decades, Northern Illinois University's faculty of Outdoor Teacher Education has been offering a graduate course, "Integrating Community Resources into Curriculum and Instruction." This course asks teachers to identify places, processes and/or people in the community that can be sites for learning. They locate these resources and, using a format predetermined by the group, describe the attributes of that resource. In

the past seven years I have been teaching that course, we have used two community-based educational models to guide our learning. We chose the Foxfire Program (The Foxfire Fund, 1990), a nationally recognized, student-centered approach, and Expeditionary Learning Outward Bound (Campbell, Liebowitz, Mednick, & Rugen, 1998), a program initially funded by the New American Schools Development Corporation in 1992. Both of these programs are currently operating successfully in schools across the country and have shown that a wide range of students can learn important objectives and become motivated and actively engaged in the process. Each of these programs employs several guiding principles and practices that reflect sound experiential learning philosophies. These project-based models place high priority on student decision-making, critical and creative thinking, and problem-solving in the context of the community and local issues. The chart that concludes this article suggests other place-based programs that *Taproot* readers may wish to investigate. (See Chart on Page 9).

The Foxfire Fund, Inc. (1990). *The Foxfire approach: Perspectives and core practices. Hands On*. Rabun Gap, GA: The Foxfire Fund, Inc.

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Selected Place - Based Curricular Programs

1. Rivers Project - A program designed to increase scientific and other literacies through studying local rivers.

Contact:

<http://www.siu.edu/OSME/river/river/html>

2. Green Works! - A program which encourages participants to form partnerships with community groups to implement action and service learning projects.

Contact: www.plt.org

3. The Globe Program - A worldwide program coordinating the work of students, teachers, and scientists in studying and understanding the global environment.

Contact: info@globe.gov

4. Roots and Shoots - The Jane Goodall Institute's environmental and humanitarian program aimed at fostering respect and compassion for all living things through community action.

Contact: www.janegoodall.org

5. The Roger Tory Peterson Institute - Sponsors a nature and place-based program of curriculum integration focusing on the biophysical and cultural characteristics of local communities.

Contact: mark@rtpi.org

6. The Center for Ecoliteracy - Sponsors educational programs grounded in systems theory, systemic school reform, place-based education, and the wisdom of indigenous peoples.

Contact: www.ecoliteracy.org

7. River of Words Project - Sponsors an annual poetry and art contest designed to help children discover their "ecological address" by exploring local watersheds.

Contact: row@irn.org

8. Common Roots: A Framework for Integrated Living Curriculum - A K-6 curriculum that fosters academic excellence across the disciplines by engaging youth in local community explorations.

Contact: rootsnet@plainfield.bypass.com

9. Streams - An interdisciplinary program centered around the study of a local stream from its headwaters to its mouth.

Contact: www.ems.psu.edu.HAMS/

10. Discovering Your Life Place: A First

Bioregional Workbook - A curriculum explaining the concept of bioregionalism through mapmaking.

Contact: planetdrum@igc.apc.org

11. Green Map System - A program inviting students to create their own green maps charting ecologically significant places, projects and organizations in their home communities.

Contact: info@greenmap.com or

www.greenmap.org

12. The Center for Instruction, Staff Development and Evaluation - Offers instructional materials and staff development to prepare middle and secondary teachers to implement an environmental issues and actions, skill development program in local communities.

Contact: cisde@midwest.net

13. VINE Programs (Volunteer-led Investigations of Neighborhood Ecology) - An urban environmental education program for 8-11 year olds.

Contact: www.naaee.org/html/vine.html

14. The Institute for Earth Education - An alternative educational program aimed at helping people live more lightly on the earth and dealing with the fourth "R" (relationship).

Contact: www.eartheducation.org/letter.asp

15. Chicago River Schools Network - A network designed to help interested K-12 teachers in all disciplines who teach in the Chicago River watershed and want to use it in their curricula.

Contact: www.chicagoriver.org/CRSN

16. The Foxfire Fund, Inc - A program established to teach, model, and refine an active, learner-centered approach to education that promotes continuous interaction between students and their communities.

Contact: foxfire@foxfire.org

17. Expeditionary Learning Outward Bound - A K-12 school reform project based on ten design principles that grew out of the experiential education philosophy of Outward Bound.

Contact: <http://hugsel.harvard.edu/~elob/>