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Roxanne Myers Spencer

Western Kentucky University, roxanne.spencer@wku.edu

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K-12 Environmental Education Resources

Roxanne Myers Spencer, Associate Professor and Coordinator, Educational Resources Center,
Western Kentucky University Libraries;
Educational Resources Center,
Western Kentucky University,
1906 College Heights Blvd. #31031,
Bowling Green, KY 42101-1031;
Email: roxanne.spencer@wku.edu.
Website: http://www.wku.edu/library/whoswho/roxanne_test.htm

Roxanne Spencer would like to thank Nancy Givens, Sustainability Programs Development Coordinator; Dr. Terry Wilson, Director, WKU Center for Environmental Education & Sustainability; Dr. Charles H. Smith, Science librarian, WKU Libraries; and Marilyn Burke and Susan Ariew, University of South Florida Libraries, for assistance with this article.

The Educational Resources Center (ERC), a curriculum and children's literature collection, is a campus branch of Western Kentucky University (WKU) Libraries. The ERC's collection contains children's and young adult books, teacher education titles, textbooks in seven K-12 subject areas, family friendly and instructional DVDs, and manipulatives and realia to

support teacher education students. I am associate professor and coordinator of the ERC, and I am responsible for selecting education and children's literature materials.

Education for Sustainability (EfS) is now a core value in Western Kentucky University's Strategic Plan, and sustainability issues are being incorporated into many programs and disciplines. In this article, I discuss how I am building K–12 environmental education resources at the ERC. In the course of evolving conversations about building core collection materials for K–12 educators, I include some Education for Sustainability (EfS) resources across academic disciplines in higher education as well.

To become more familiar with environmental education resources, I have worked with teaching faculty, librarians, and staff at WKU's Center for Environmental Education and Sustainability (CEES). For example, we recently purchased many science and math activity titles from the University of California Berkeley, Lawrence Hall of Science, Great Explorations in Math and Science series, known as LHS GEMS, based on education faculty recommendations to support science education courses for WKU's School of Teacher Education programs. I have been fortunate to receive excellent suggestions from Nancy Givens, Sustainability Programs Development Coordinator at WKU's CEES, who recommended many relevant environmental education and sustainability journals (see below) for the main library collection. As funds allow, we request Ms. Givens's top-priority journals for WKU Libraries' print and online periodicals collection. The addition of Green File to our EBSCOHost modules has expanded our access to quality online environmental articles, and we recently requested an online subscription to *Green Teacher* magazine to support environmental education within the elementary and secondary teacher education programs.

Environmental Education at WKU

In the early 1980s, a Center for Environmental Education was organized at WKU to enhance collaboration between faculty in education and the sciences, while serving as a regional resource to schools, agencies, and other organizations in the university's service area. Since environmental education is, by its very nature, interdisciplinary, the Center's name was changed in summer 2009 to WKU's Center for Environmental Education and Sustainability (CEES). An Environmental Education Endorsement at the master's level has been offered since 2007. The twelve-credit-hour program meets the standards of the North American Association for Environmental Education (www.naaee.org), which also provides many useful online resources for K–12 and higher education that are worth bookmarking for library reference. The recent endorsement and higher profile of CEES was an impetus to add to the existing environmental education collection.

Environmental Education / Sustainability Conversations

In spring 2010, Nancy Givens contacted me about collection development in environmental education and sustainability to support WKU's growing commitment to sustainability across academic disciplines. The ERC already has a small collection of children's and teachers' resources to support the graduate Environmental Education Endorsement, but Ms. Givens was very interested in building a sustainability collection beyond the K–12 resources.

I was not very familiar with environmental education history, so I asked Dr. Terry Wilson, present director of CEES, to identify key ideas and turning, and he referred me to the words of Roderick Nash:

The roots of environmental education lie in the same area and mentality as the beginnings of reaction against the university ideal [of compartmentalization of knowledge]. As early as 1891, Wilbur Jackman's *Nature Study for the Common Schools* launched a **nature study** movement which took students outdoors to explore an indivisible environment with an integrated academic approach.

Outdoor education, as it was called by theorists such as L. B. Sharp and Julian Smith in the 1920s, has a very similar purpose. Nature study and outdoor education forced an appreciation of the multiplicity of factors that the classroom tended to isolate. Knowledge was integrated by an integrated environment (T. Wilson, personal correspondence, 31 August 2010).

The "dust bowl" mentality of the 1930s gave rise to **conservation education**. Its primary objective was to awaken Americans to environmental problems and the importance of conserving various natural resources. Because conservation education focused on problems which themselves were products of many interrelated factors, students exposed to such programs pursued a more integrated learning program (Nash 1976).

Dr. Wilson also pointed to an important view of where the field of environmental education has been heading:

As the term environmental education became used more and more in the 1960s there was much debate as to its definition and its goals. Most environmental educators today would agree with the United Nation's definition, written by the

late Dr. Bill Stapp (University of Michigan) [1969], which is: “Environmental education is aimed at producing a citizenry that is knowledgeable concerning the biophysical and socio-cultural environment and its associated problems, aware of how to help solve these problems, and motivated to work toward their solution.” (T. Wilson, personal correspondence, 31 August 2010)

The CEES website posts the commonly used conceptual model of the Four Pillars of Sustainability for Education for Sustainability (EfS). These are listed as Environmental Stewardship, Social Responsibility, and Economic Prosperity, and their intersection in Global Responsibility.

Collecting Environmental Issues Titles: WKU Libraries’ Science Bibliographer

The very interdisciplinarity of sustainability issues can make it a challenge for libraries with specific subject bibliographers or a liaison librarian system representing different academic disciplines. For more insight into how titles in environmental issues specifically have been collected historically at WKU Libraries, I consulted Dr. Charles H. Smith, Science librarian at WKU Libraries.

Dr. Smith has collected titles on environmental issues for WKU Libraries’ science collection, largely by “the standard means of collection development, focusing on authors, publisher names and value for dollar,” and adds, “attention to hot-button subjects and novel approaches—best sellers and subjects in the news—is worthwhile”(C. H. Smith, personal correspondence, 13 September 2010). He also scans the news for pertinent topics (oil spills, wind power, etc.); keeps an eye on public interest in the media, reference questions, amount of

coverage on a topic already in the collection; and checks the library collection for current, relevant publications.

Book reviews serve a purpose, of course, but Dr. Smith suggests focusing more on how many reviews titles receive when considering library purchases, as in many cases, negative reviews on titles related to environmental issues reflect social or political biases. Knowing which publishers consistently offer well-researched, well-written, and well-produced titles is key to his selections for environmental issues. Recommended publishers include Island Press and their imprints; National Academy of Sciences Press; and major university presses, such as Cambridge, Oxford, Yale, MIT, Princeton, and University of California, for related and reasonably priced titles (C. H. Smith, personal correspondence, 13 September 2010).

Key EfS Authors and Resources

I asked Dr. Wilson and Ms. Givens to identify some key thinkers/authors in the field for future environmental educators:

- Richard Louv, author, *Last Child in the Woods; Preventing Nature Deficit Disorder*
- Deborah Simmons, University of Northern Illinois (retired)
- Thomas Marcinkowski, Florida International University
- Richard Wilke, University of Wisconsin, Stevens Point
- Harold Hunderford, Southern Illinois University (retired)
- David W. Orr, Oberlin College
- Anthony Cortese, president of Second Nature
- Arjen Wals, Wageningen University, the Netherlands

- Peter Corcoran, Florida Gulf Coast University
- Jaime Cloud, Cloud Institute for Sustainability Education

Ms. Givens also recommended that essential educational resources include UNESCO's teaching, training, and learning tools for the Decade of Education for Sustainable Development (DESD 2005–2014). She emphasizes that educators become familiar with the core content, competencies, and habits of mind associated with Education for Sustainability, which have been defined as core literacies for the twenty-first century. Resources for these literacies are available online. Selected recommended resources are listed below (N. Givens, personal correspondence, 18 August 2010).

Identifying K–12 Resources

I have combed recommended titles from our database subscriptions to Horn Book Guide Online; WilsonWeb Core Collections: Children's, Middle/Junior High, and Senior High; Kirkus Reviews; Booklist; TeachingBooks.net; and Novelist K–8 for children's and young adult's fiction and nonfiction titles. To support environmental education titles for our professional development collection (teacher education and curriculum materials), I reviewed recent titles listed in RCL Web, WorldCat, and Books in Print.

I also gleaned useful information from the University of South Florida Libraries' LibGuides and other online resources on sustainability and environmental education. One of the most comprehensive recent bibliographies for these titles is Mary Beth Applin's "Building a Sustainability Collection: A Selected Bibliography," first published in *Reference Services*

Review and reprinted in *Mississippi Libraries*. It is an invaluable resource and belongs in the collection development files of any librarian intent on building a solid core collection in sustainability topics. For recent children's literature titles, recommendations by Lindsay Cesari in "Going Green," published in *School Library Journal*, and reviews on environmental literature for children in *Book Links* and *Booklist*, are exceptional resources.

Although the ERC does not house periodicals, I include below a short list of related magazines and scholarly journals, to round out print resources for environmental education collections. Space does not allow for a discussion here of related online teaching resources, but state and federal websites with education pages have many excellent resources for K–12 educators.

All in all, this has been an enlightening introduction for me as an education librarian. It is heartening, as a child of the 1970s, to see such a strong resurgence of concern for the environment. The movement is alive and well with a rich variety of literature and resources for libraries on Education for Sustainability and Environmental Education issues—suitable for students of all ages.

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Applin, M. B. (2009). Building a sustainability collection: A selected bibliography. *Reference Services Review*, 37(3), 313–325. Reprinted in *Mississippi Libraries* (Winter 2009), 73(4), 92–98. Retrieved from WilsonWeb.

Cesari, L. (2009, August). Going green. *School Library Journal*, 55(8), 40–44. Retrieved from WilsonWeb.

Engberg, G. (2010, February 15). Top ten books on the environment for youth: 2010. *Booklist*, 106(12), 84. Retrieved from <http://www.booklistonline.com/ProductInfo.aspx?pid=4003443>

Leeper, A. (2009, October). Classroom connections: Saving the Earth—one book at a time. *Booklist Book Links*. Retrieved from <http://www.booklistonline.com/ProductInfo.aspx?pid=3810703>

Nash, R. (1976). Logs, universities, and the environmental education compromise. In Robert Martlett (Ed.), *Issues in Environmental Education II* (pp. 10–18). *ERIC/SMEAC Bulletin*, 1976. ED 135 665. Reprinted in J. F. Disinger (1983), Environmental education's definitional problem. *ERIC/SMEAC Bulletin*. Retrieved from www.cnr.uidaho.edu/css487/EE_Definitional_Problem.pdf

Seaman, D. (2010, February 15). Top ten books on the environment: 2010. *Booklist*, 106(12), 28. Retrieved from <http://www.booklistonline.com/ProductInfo.aspx?pid=4003470>

Stapp, W., et al. (1969). The concept of environmental education. *Journal of Environmental Education*, 1(1), 31. Retrieved from www.cnr.uidaho.edu/css487/The_Concept_of_EE.pdf

Ward, B. A., & Day, D. (2010, June). Classroom connections: Preserving the environment.

Booklist Book Links. Retrieved from

<http://www.booklistonline.com/ProductInfo.aspx?pid=4249141>

Selected Recommended Resources for Librarians/Educators

Resources for College Libraries. RCLWeb. www.rclweb.net/

UNESCO. (1995-2010). Education for Sustainable Development website.

www.unesco.org/en/esd/publications/

UNESCO. (2006, February–May). Educating for tomorrow's world. *Education Today: The*

Newsletter of UNESCO's Education Sector, 16. Retrieved from

<http://unesdoc.unesco.org/images/0014/001444/144403E.pdf>

UNESCO. (2006). Education for sustainable development toolkit. United Nations Decade of

Education for Sustainable Development (2005–2014). Retrieved from

<http://unesdoc.unesco.org/images/0015/001524/152453eo.pdf>

UNESCO. (2006). Teaching and learning for a sustainable future:

www.unesco.org/education/tlsf/

University of California Berkeley. Lawrence Hall of Science. Great Explorations in Math and Science. LHS GEMS: www.lhsgems.org/

Western Kentucky University's Center for Environmental Education and Sustainability.
www.wku.edu/cees

Core Titles in Environmental Education and Sustainability

Burchsted, S., & Byrne, J. M. (2002). *Shaping our future facilitators guidebook*. Shelburne, VT: Foundation for Our Future.

Colby, A., Ehrlich, T., Beaumont, E., Stephens, J. (2003). *Educating citizens: Preparing America's undergraduates for lives of moral and civic responsibility*. San Francisco: Jossey-Bass.

Corcoran, P. B., & Wals, A. (Eds.). (2004). *Higher education and the challenge of sustainability: Problematics, promise and practice*. Dordrecht, The Netherlands: Kluwer Academic Publishers.

Huckle, J., & Sterling, S. R. (Eds.). (2001). *Education for sustainability*. London: Earthscan Publications Limited.

Jacobs, H. H. (Ed.). (2010). *Curriculum 21: Essential education for a changing world*.
Alexandria, VA: Association for Supervision & Curriculum Development.

Keniry, J. (1995). *Ecodemia: Campus environmental stewardship at the turn of the 21st century*.
Washington, DC: National Wildlife Federation.

Orr, D. W. (2004). *Earth in mind: On education, environment, and the human prospect*.
Washington, DC: Island Press

Orr, D. W., Stone, M. K., Barlow, Z., and Capra, F. (2005). *Ecological literacy: Educating our
children for a sustainable world*. San Francisco: Sierra Club Books.

Senge, P. M.; Laur, J.; Schley, S.; & Smith, B. (2008). *The necessary revolution: How
individuals and organizations are working together to create a sustainable world*. New
York: Doubleday.

Stone, M. K., and the Center for Ecoliteracy. (2009). *Smart by nature: Schooling for
sustainability*. Berkeley, CA: Watershed Media.

Wheeler, K. A.; Hulbert, S.; Schaefer, M.; & Wacey, C. (1996). *Education for sustainability: An
agenda for action*. Washington, DC: U.S. Government Printing Office.

Selected Periodicals

Green Teacher. www.greenteacher.com

Yes! www.yesmagazine.org/

Journal of Education for Sustainable Development. jsd.sagepub.com/

Journal of Sustainability Education. www.journalofsustainabilityeducation.org/wordpress/

Children's magazines with environmental content

National Geographic for Kids

Appleseeds

Click

Kids' Discover

Cricket

Muse

Ranger Rick

Dig

Odyssey

Journals

Environment, Development and Sustainability. www.springerlink.com/content/1387-585X

International Journal of Sustainable Development and Planning.

journals.witpress.com/pages/jsus/default.asp

International Journal of Sustainable Development & World Ecology.

www.tandf.co.uk/journals/titles/13504509.asp

International Journal of Sustainability in Higher Education.

www.emeraldinsight.com/journals.htm?issn=1467-6370

The International Journal of Environmental, Cultural, Economic and Social Sustainability.

[onsustainability.com/journal/](https://www.mdpi.com/journal/onsustainability)

Mother Pelican: PelicanWeb's Journal of Sustainability Development. pelicanweb.org/

Sustainability. www.mdpi.com/journal/sustainability