

J1.4 REVIEWED COLLECTIONS AND COLLECTIONS-BUILDING IN THE DIGITAL LIBRARY FOR EARTH SYSTEM EDUCATION (DLESE)

Kathryn M. Ginger,* University Corporation for Atmospheric Research
Mary R. Marlino, University Corporation for Atmospheric Research

1. THE DLESE CONCEPT

The Digital Library for Earth System Education (DLESE) is a community-owned and governed digital library offering high-quality electronic resources that foster learning about the Earth at all educational levels. When fully operational, DLESE will offer peer-reviewed teaching and learning resources, interfaces, and tools to allow exploration of Earth data, services to help users effectively create and use educational resources, and an 'intellectual commons' facilitating sharing, collaboration, and excellence in Earth system education. DLESE users include learners and instructors in all venues, many of whom are also resource contributors, developing educational materials, providing scientific knowledge, and evaluating DLESE holdings. To date, significant progress has been made on many aspects of the library: the community has been organized, a governance structure has been established, a Strategic Plan has been developed, a useful collection is available, and a working version of the library is now in use (Marlino 2001).

2. COMMUNITY GOALS REALIZED

As our library-building processes have matured, two highly prioritized community goals are in the process of coming on line: a DLESE Reviewed Collection and a community collection-building tool. The purpose of the Reviewed Collection is to help library users find quality, peer-reviewed teaching and learning materials and to provide a forum through which electronic resource creators can achieve academic career recognition. The purpose of the community collection-building tool is to enable library users to develop and manage local digital collections so that these collections can eventually be shared with others. This paper reviews the progress to date on both of these community priorities.

*Corresponding author address: Kathryn Ginger, UCAR/DPC, P.O. Box 3000, Boulder, 80307

3.0 COLLECTION BUILDING WITHIN DLESE

Collection building is a process conducted over time that builds and shapes a collection into a balanced, cohesive and sought-after set of user materials.

For DLESE this means:

- Assessing the information needs of users
- Analyzing usage statistics and demographic projections
- Formulating and articulating selection criteria for library items
- Providing mechanisms for sharing library items
- Developing a well-defined cataloging plan; that is, collecting the URL, title, description etc. information about a resource
- Providing selection and de-selection mechanisms for library items
- Exposing the collection to users and making adjustments to the collection based on use and relevancy of the information to library users

For collection builders who would like to contribute to DLESE, collection building entails all of the above with an extra step for sharing items. Any shared items need to be in a format DLESE can recognize and use. Since converting formats is always a challenge, DLESE has developed a community collection-building tool called the DLESE Catalog System (DCS).

4.0 DLESE CATALOG SYSTEM (DCS)

The DCS is a web-based application that collection builders use on their local system to create a collection that will be in the correct format for DLESE. The tool allows collections builders to catalog URLs with metadata, manage the generated metadata records, perform local discovery on the metadata and share the metadata records with external libraries. The web-based nature of the tool even facilitates collections development by remote groups working on the same collection. The tool instructions are available at <http://www.dlese.org/Metadata/tool/index.htm>.

5.0 REVIEWED COLLECTIONS

DLESE has two types of collections, the Broad Collection and the Reviewed Collection. The Broad Collection provides access to those resources that meet the minimum standard of relevance and appropriateness to Earth system education. The rationale for maintaining an un-reviewed or Broad Collection is to provide the widest possible access to a range of resources, and to provide a forum in which resource users can provide feedback to creators to iteratively improve the quality of individual resources.

The Reviewed Collection provides access to resources that have been critically reviewed to meet the following criteria (Kastens 2001, Manduca and Mogk 2000)

- Scientifically accurate
- Importance or significance to Earth system science
- Pedagogical effectiveness
- Well-documented
- Ease of use for students and faculty
- Power to inspire or motivate students
- Robustness or sustainability as a digital resource

In essence, the Reviewed Collection is a subset of the Broad Collection. The rationale for establishing such a collection is to help library users find high quality teaching and learning materials and to help resource creators achieve academic career recognition.

While every item in the Reviewed Collection will meet the above criteria, there are multiple pathways to the collections and collection builders are encouraged to develop new pathways. Currently, the most developed pathways to the Reviewed Collection include:

1. Community Review System (CRS)
2. Journal of Earth System Science Education (JESSE)
3. Digital Water Education Library (DWEL)

The CRS evaluates resources by using a hybrid system that is a combination of community review via a web-mediated recommendation engine and expert review by scientists. JESSE (Ruzek 2000) provides professional recognition for resource creators through publication in a peer-reviewed journal. Material appearing in JESSE meets the seven criteria for the DLESE Reviewed Collection.

DWEL (Geary 2002) is in the process of gathering approximately 500 "exemplary" K-12 water resources (scientific, economic, and policy) that can be used to investigate and learn about important water concepts, processes, and issues. Again, the resources chosen meet the review criteria.

6. CONCLUSION

Within the digital library world many collections exist; the success and usefulness of a library will lie in the quality of its resources and collections. Therefore, DLESE provides collection builders a cataloging tool to develop their own collections while at the same time fostering mechanisms to create high quality reviewed collections.

7. ACKNOWLEDGMENTS

This project is funded by the National Science Foundation, Directorates for Geosciences (GEO), and for Education and Human Resources (EHR); Award #0085600.

8. REFERENCES

- Manduca, C., and Mogk, D., 2000. *DLESE: A Community Plan*. Final Report from the University of Oklahoma to the National Science Foundation, Grant 00-006648.
- Kastens, K., 2001: How to Identify the Best Resources for the Reviewed Collection of the Digital Library for Earth System Education. *Computers & Geosciences*. v.27 (3), 375-378.
- Ruzek, M., et. al., 2000: An Electronic Peer-reviewed Journal of Earth System Science Education Resources (JESSE). *International Geoscience and Remote Sensing Symposium*, Honolulu, HI. See: <http://www.usra.edu/esse/jesse/jesse2000/igars2000.html>
- Geary, E., 2002: Digital Water Education Library (DWEL). <http://www.csmate.colostate.edu/projects/DWEL.html>
- Marlino, et. al., 2001: A Digital Library for Earth System Education (DLESE). *Proceedings of the 10th Sym. on Educ.* Albuquerque, NM, Amer. Meteor. Soc., Boston, MA, J25-J28.