ETHNOMATHEMATICS DIGITAL LIBRARY

NANCY LANE

Pacific Resources for Education and Learning (PREL)

900 Fort Street Mall, Honolulu, Hawai'i, 96813

Phone: (808) 441-1400

Email: lanen@prel.org

• • • • •

FRANDA LIU

(PREL)

Phone: (808) 441-1320

Email: liuf@prel.org

Major Activity

The Ethnomathematics Digital Library (EDL) is planned as a resource network and interactive learning community for ethnomathematics worldwide, with special emphasis on the indigenous mathematics of the Pacific region. It is designed for use by K-12 students and teachers, college students and faculty, curriculum developers and publishers, and researchers. The EDL has three primary goals:

- To develop a virtual collection of high quality ethnomathematics resources by identifying those already online and seeking copyright clearance, digitizing, and posting those not yet online
- To provide easy website access to these resources by using Dublin Core metadata elements for indexing and by offering browse, quick search, and advanced search options
- To establish a virtual ethnomathematics curriculum and research exchange network that will foster the development of culturally sensitive mathematics curricula and inform future research directions.

Project Approach

Advisors Panel: An Advisors Panel provides advice and support for the development of the EDL. Among its tasks are to:

- Help define the scope of the ethnomathematics virtual collection
- Review the index terms (taxonomies) used to assign metadata tags
- Recommend printed and archival resources for digitizing
- Trial the website and recommend improvements
- Suggest activities to promote the EDL and interaction among its users.

Collaborative Partners: PREL in Honolulu, Hawai'i, manages the EDL. Collaborative partners have formed a network to identify, locate, and index resources for the EDL. These partners are:

- Australian Academy of Science (AAS)
- Ohio State University's Eisenhower National Clearinghouse for Mathematics and Science Education (ENC)
- University of Goroka, Papua New Guinea
- University of Guam

- University of Hawai'i at Mānoa
- University of the South Pacific, Fiji
- University of Western Sydney, Australia.

Other interested organizations are invited to participate.

Selection Criteria: Resources are accepted for the EDL without review if they meet one of the following criteria:

- Published in a peer-reviewed journal, conference proceedings, or the International Study Group on Ethnomathematics newsletter
- Available through the ERIC Clearinghouse
- Posted on the ENC, Nova (AAS), or professional association website
- Approved by a state education system.

Theses from accredited universities and early ethnographic records collected by missionaries, explorers, or anthropologists are also accepted. Other types of materials are subject to further review.

Indexing and Searching: The EDL uses the Dublin Core metadata elements and Educational Extensions to describe the resources in the virtual collection. Users are able to search the EDL in three ways:

- Browse by ethnomathematics or educational subject, geographical area, or cultural group
- Quick search by substantive keywords
- Advanced search using metadata elements.

Networking and Promotion: Presentations about the EDL have been made at numerous conferences and meetings in the Pacific, as well as at the Second International Congress on Ethnomathematics (IICIEM) in Brazil. Promotional materials about ethnomathematics and the EDL are being distributed to teachers and students, including an ethnomathematics topic on the AAS's Nova: Science in the News website **(www.science.org.au/nova)** and articles in student science magazines The Helix and Scientiffic. During the 2002-2003 school year, the Pacific Consortium for Mathematics and Science Education is working to develop curriculum materials and networks among Pacific math and science teachers.

Product Developments

Initially resources already available on the Web were indexed for the pilot EDL. This process commenced in mid-July 2002, and about 300 items are available. The alpha version was launched at the IICIEM, and it is being evaluated by the Advisors Panel and collaborative partners. The beta version is scheduled for public launch early in 2003.

Simultaneously, the EDL is seeking to identify printed, audio, and video resources that can be digitized and made available on the Web. Contracts have been let with the partners indicated above to provide needed services.

www.ethnomath.org

Project Benefits

Many of the resources to be added to the EDL are currently inaccessible. For example, the Glen Lean Centre at the University of Goroka will make a wealth of unique material available, including an online database of the counting systems from 800 language groups in Oceania and early missionary and ethnographic materials that document them.

The University of Guam is carrying out a comprehensive search of local commercial, private, and governmental publications, archives, and relevant ethnographies and bibliographies at the Richard F. Taitano Micronesian Area Research Center, the Guam Public Library governmental archives and Pacific collection, and the RFK Memorial Library at the University of Guam.
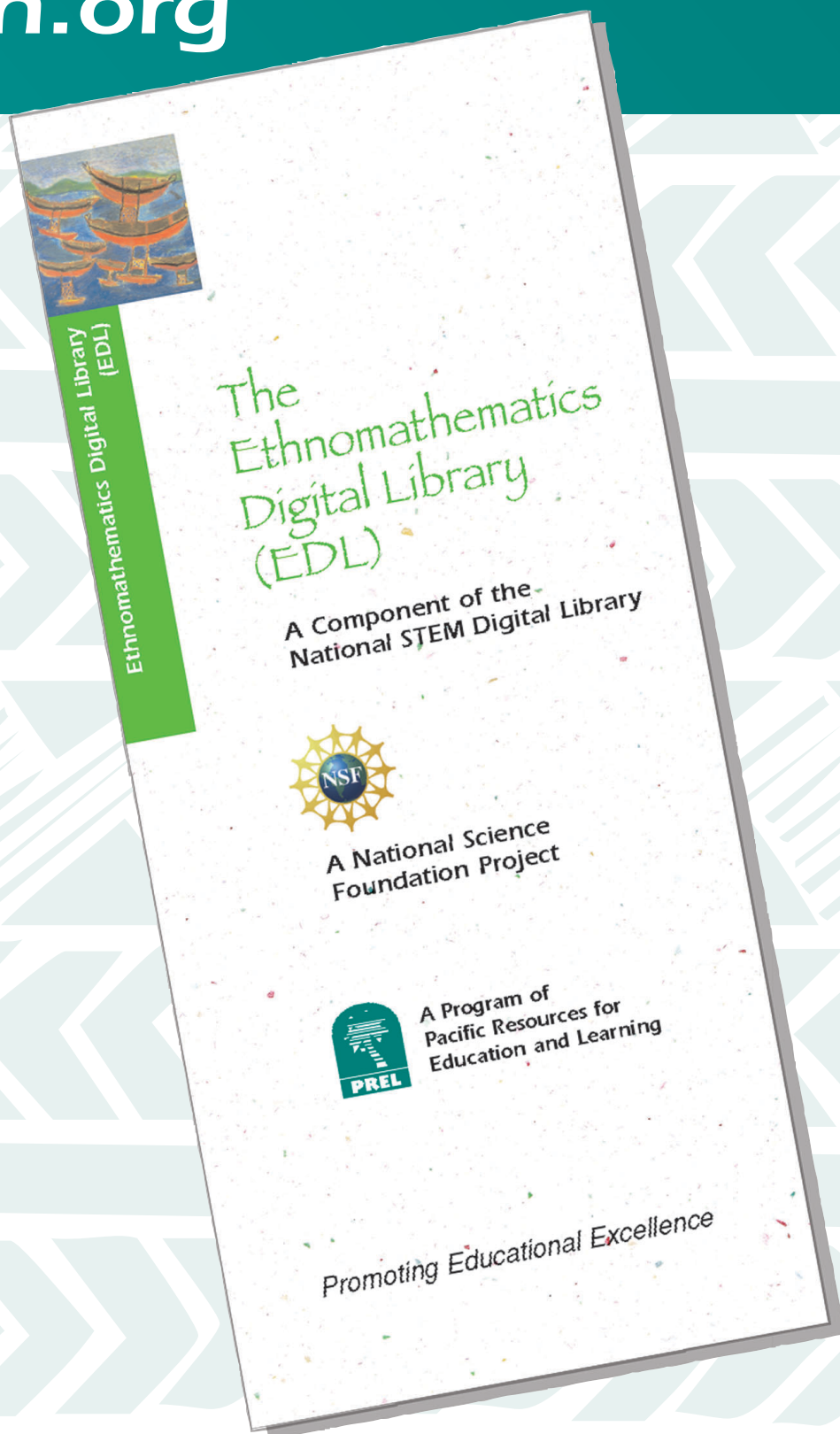
The AAS is working with the Australian Institute for Aboriginal and Torres Strait Islander Studies and the National Museum of Australia to locate and digitize unique manuscripts.

Training Opportunities

The EDL is supporting half of a PREL Pacific Educator in Residence position to develop networking activities. Maggie Augafa from American Samoa is spending the year working with Pacific educators to create ethnomathematics curriculum materials to share through the EDL.

Website and Publications

The EDL is at **www.ethnomath.org**. Project brochures, Pacific Educator articles, and copies of the EDL cataloging manual are available on request.

Ethnomathematics Digital Library (EDL)

The Ethnomathematics Digital Library (EDL)

A Component of the National STEM Digital Library

A National Science Foundation Project

A Program of Pacific Resources for Education and Learning

PREL

Promoting Educational Excellence

NSF