

Supporting interdisciplinary teaching and research with the Museum of Anthropology's Online Artifact Database

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Abstract

We present a case study of how the Museum of Anthropology at Wake Forest University developed and implemented a database system and online information service to promote and preserve its collections and make information contained within its digital database freely accessible. The Museum of Anthropology received three Museums for America grants from the Institute of Library and Museum Services to address high-priority collections stewardship activities aimed at maintaining and improving the management of archaeological, ethnographic, and archival collections to fulfill its educational mission and strategic goals. The overall objective of the three-phase project is to provide broad public access to cataloging information and digital images for all objects and archival records in the collections through the web. As part of the project, we utilize methods to engage visual learners. We work with faculty members and primary and secondary school educators to introduce the teaching and research potential of the Museum of Anthropology's Online Artifact Database; provide ideas for integrating museum objects into teaching and learning; and offer strategies for generating interdisciplinary thinking.

Introduction

University museums are confronted with the need and opportunity to present their collections in new and innovative ways to the public. One means of developing new audiences and presenting more information to current audiences is to develop web content and digital resources. Web content and digitization perform multiple functions for museums. Digitization provides an easier means to organize, sort, and search information about collections, but also provides a means to preserve information (DREWES & PAGE 1997). Utilization of custom-made database management programs allows museums to input and manipulate large amounts of data, including text and digital images, in an efficient and easily accessible manner. The following is a case study of how one university museum developed and implemented a database system and online information service to support research and teaching at multiple levels.

Museum of Anthropology

The Museum of Anthropology at Wake Forest University creates awareness of global cultures by collecting, protecting, managing, and exhibiting archaeological artifacts, ethnographic objects, and visual arts of past and present peoples, and providing opportunities for intercultural learning.

Founded in 1963, the Museum of Anthropology was established by the faculty of the Department of Anthropology to broaden learning opportunities for students. Since its inception, the museum's educational role has expanded greatly within the Winston-Salem and Piedmont Triad communities, to the extent that we are 'Winston-Salem's global cultures center'. The museum's collections, exhibits, and educational programs have grown extensively.

Collections

The Museum of Anthropology's collections of some 28,000 archaeological and ethnographic objects represent ancient and contemporary traditional non-Western cultures from around the world. No other museum in North Carolina collects from such a diversity of world areas, past and present. The first and only exposure many people have to these cultures is through exhibits and outreach programs based

on the museum's collections of stone tools, wooden masks, woven textiles, metal adornments, ceramic vessels, and other objects. Subsets of the collections reveal important facets of the history of the area's Moravian community and the early development of archaeology in North Carolina not available elsewhere. The collections are used for teaching university and K-12 students, in public outreach, for long-term exhibits and for loans to other institutions, and are the basis of scholarly publications and academic theses.

Archaeological Objects

The archaeological collection consists primarily of 20,517 artifacts collected in the 1930s and 1940s by Douglas Rights, a founder of the North Carolina Archaeological Society and a Moravian minister. Most artifacts in his collection came from the Western Piedmont and Yadkin-Pee Dee River basin of North Carolina and represent the Archaic and Woodland peoples of this area. There are 1,150 objects from the Americas south of the United States. In addition, there are 1,205 objects from Europe, North America, Africa, and unknown locations.

Ethnographic Objects

The ethnographic collection of 5,106 objects represents cultures located throughout most of the non-Western world. Museum staff members, Department of Anthropology faculty and students, and private individuals collected many objects within their cultures of origin and documented their significance. The largest single ethnographic collection is from Africa, consisting of 1,474 objects. Significant portions of the 1,121 objects from Mexico, Central America, and South America consist of Maya textiles from the 1970s to the present, objects used in Día de los Muertos celebrations in Mexico, and Amazonian personal adornment from Brazil. The collection includes 1,239 objects from Asia: 654 late Q'ing dynasty items from China, 180 objects from Japan, and the remainder from scattered areas of Southeast Asia. There are 426 ethnographic objects from North America, including Yup'ik and Inuit materials collected by Moravian missionaries in Alaska and Labrador. Oceanic artifacts made by many island peoples, particularly those of New Guinea, number 527. The remaining items are from Australia, northern Pakistan, India, the Middle East, and unknown areas.

Archives

The archival collection consists of almost 7,000 paper documents, printed photographs, slides, and negatives that relate to and support the object collections. Generally, the materials in the archives were created by the collectors of the objects and record information that makes the function and significance of the objects more comprehensible to people not familiar with the cultures from which they came. As with the objects, many of the archival documents and images record information about life-ways that are no longer practiced and cultures that are changing rapidly under the effects of globalization. The archives contain irreplaceable information about cultural and environmental contexts of our collections of objects from past, changing, and modernizing cultures.

Development of the digital database

Until 2005, the Museum of Anthropology had no registrar or collections manager and creation of paper and computer database records fell to staff and students when they could spare time from their regular duties. Distractions and inadequate training led to many errors and inconsistencies in both physical and digital records. Few objects were photographed.

In addition, due to a history of trying several data management programs, all developed primarily for business applications and designed in-house for financial reasons, digital records did not have consistent lexicon categorization and some data from physical records were not in the computer

catalog because of insufficient field space. The museum eventually settled on Access for digital records, but the database was designed and installed by a person who was knowledgeable about neither the program nor the museum's needs. It was in spreadsheet format, with fields not logically ordered for efficiency of data entry or retrieval. Search, select, sort, and copy manipulations were inefficient and frequently did not function as intended. The extended spreadsheet form was awkward and time-consuming to navigate for retrieving information.

The staff attempted to complete and clean up the Access catalog, but progress was slow and the collections and related research had grown to the extent that the system did not meet data management needs. Finally, we decided that having a data management program designed for museums would, at last, bring order and consistency to the management of collections and allow enough room for complete data recording. Having the catalog consistent and up to date would permit the staff to focus on current registration and cataloging duties, facilitate access to and use of collections, and reduce staff time, effort, and wear on collections.

Phase 1

A grant from the Museums for American program of the Institute of Museum and Library Services (IMLS) funded phase 1 of the digital database project, which ran from October 1, 2004 to April 30, 2006. The purpose of phase 1 was to create a new computerized database of the Museum of Anthropology's collections of archaeological and ethnographic objects so that the staff and public could access useful and accurate records of all objects quickly and effectively.

Visual Re:discovery is a relational database that presents basic data in a catalog card format visible on one screen, facilitating rapid access and retrieval. In addition to collections management and photograph management modules, a lexicon module assists with consistency of field terms so that indexing and retrieval will be complete with no items omitted due to improper terminology.

We installed the new database and migrated data onto a server at Wake Forest University. The newly-hired registrar input new records into the database and corrected migrated records. Working with Re:discovery database records proceeded much more rapidly than anticipated. In general, we were pleased with Re:discovery as a database management tool for museum staff use. Searches were thorough and records were detailed and helpful.

We installed a public-access computer terminal with connection to the database in a museum gallery and guided members of the public and Wake Forest University students in use of the database for research and course support. However, this aspect of phase 1 was not a complete success. The public-access version of Re:discovery that we purchased with the support of IMLS was inflexible and search results were not visually or intellectually stimulating, which limited its appeal to the public. In addition, we installed the database on a server in a building across campus from the museum. The server handled large amounts of data, so searches were extremely slow, severely limiting appeal for researchers. Finally, we underestimated the amount of effort necessary to promote the public-access database to the public and Wake Forest University community.

Phase 2

The purpose of phase 2, funded by a second Museums for America grant, was to update the computerized database and integrate photos of objects so that the staff and public would be able to access useful and accurate records and images of all objects quickly and effectively through the World Wide Web (fig. 1). Phase 2 began August 1, 2006 and ended July 31, 2008.

During the beta-testing period late in phase 2, the public version of the database was installed on the web. Included within the database website are a research guide, online catalog manual, K-12 lesson plans, and answers to frequently asked questions to make it more user-friendly.



Fig. 1 - Museum educator Tina Smith shows elementary school student Erin Fritts an African crown and its corresponding Online Artifact Database record © Wake Forest University

Phase 3

The overall goal of phase 3, supported by a third Museums for American grant, was to provide broad public access through the web to cataloging information and digital images for the archival collection. Access to the archival collection will enhance classroom teaching and research for faculty and students at Wake Forest University and other institutions of higher learning throughout the nation; support curriculum-based learning by students in primary and secondary schools in North Carolina and other states; facilitate research into the context of traditional

material culture by scholars worldwide; and permit the general public to learn about traditions and modernization of peoples throughout the world. Project activities occurred between August 1, 2008 and July 31, 2010.

Public access is through the museum's website. Web use manuals were written for the museum staff, educators, and the public, and workshops instructed primary and secondary school educators on how to use the web archives with their students. Project staff members evaluated the project on the basis of timely completion of activities and by testing the ability of museum staff to search the web archives successfully.

Results

The Online Artifact Database¹ is accessible through the museum's website². Museum of Anthropology staff members promote the database through presentations to the public, K-12 educators, and faculty from institutions of higher learning. The public launch of the database occurred at a reception on September 9, 2008. Print media and list-serves quickly spread news about its existence and people started to explore it remotely.

The museum's staff promoted the database even before the public launch. The director and registrar demonstrated it to Wake Forest University faculty, staff, and administrators at a Teaching and Learning Fair in February 2008. As part of phase 2, the museum educator and registrar demonstrated it to K-12 teachers from the Winston-Salem/Forsyth County School District at four June 2008 workshops.

The pace of promotion activities increased after the official launch. The director and museum educator spoke about the database at meetings of Wake Forest University faculty in the departments of anthropology, art, education, health and exercise science, and history, at a special reception in the museum for faculty from any department, and at new faculty orientation. The educator presented

¹ www.wfu.edu/moa/database/ (accessed December 13, 2010).

² www.wfu.edu/moa/ (accessed December 13, 2010).

additional workshops for teachers in the Winston-Salem/Forsyth County School District at individual schools and at the district office. We solicited concrete feedback from teachers in the form of lesson plans and class activities that use the database. With permission, we plan to make any feedback we receive freely accessible to other educators through the database support pages.



Fig. 2 - Registrar and collections manager Kyle Bryner provides strategies for searching the Online Artifact Database at a workshop for faculty from local colleges and universities © Museum of Anthropology

Greensboro College, North Carolina A&T State University, and Forsyth Technical Community College left with ideas and skills related to object-based learning, using museums in the classroom, and the teaching and research potential of the database. Wake Forest University faculty members from the departments of anthropology, art, classical languages, communication, economics, education, history, romance languages, and theatre and dance attended.

We hoped many of the workshop participants would send us concrete examples of how they implemented what they learned. To encourage attendees to put what they learned into practice, each



Fig. 3 - After searching the Online Artifact Database, students from *Visualizing Empire (c. 1600 to the Present)*, a history first year seminar at Wake Forest University, work with objects and their paper records in the Museum of Anthropology's curation room © Museum of Anthropology

On February 21, 2009, the museum presented a faculty workshop entitled *Using Museums to Support Interdisciplinary Curriculum in Undergraduate Teaching* under a grant from the Provost's Fund for Academic Excellence (fig. 2). In addition to the director and registrar, presenters included Katherine Hart from the Hood Museum of Art at Dartmouth College and Carin Jacobs from the Center for Arts, Religion and Education at the Graduate Theological Union. Innate interest in the topic was augmented by a \$200 stipend to faculty members who attended. An enthusiastic group of 27 faculty members from Wake Forest University, Salem College, Guilford College,

was eligible for an additional \$200 stipend upon submission of a course syllabus and student projects that resulted from implementing methods introduced in the workshop; evidence of submitting an article to a peer-reviewed journal based on research performed using the Museum of Anthropology's Online Artifact Database; or evidence of presenting a paper at a national conference on teaching or research using the database. We will share examples through the support pages of the database itself.

Since then, workshop participants have incorporated the database into their teaching for courses in acting, anthro-

pology, education, first year seminar, history, and Spanish at Wake Forest University (fig. 3) and history at North Carolina A&T State University. Five additional Wake Forest University faculty members in the departments of anthropology, religion, and history have used the database in connection with their teaching. They did not attend the workshop and were ineligible for stipends, but heard about the database and wanted to use it anyway. So far, more than 300 university and college students have used the digital collections in their learning. Other faculty members at Wake Forest University and other colleges have indicated they plan to integrate the database into their research and teaching during coming academic years.

We have begun to shift our focus to promotion outside of Wake Forest University. Museum staff and university faculty members have presented at local, state, regional, and international museum, history, creativity, digital curation, and archaeology symposia and conferences. Two publications about the database have come out so far (WHITTINGTON ET AL. 2009; 2010).

We have directly introduced the database to approximately 1,711 K-12 educators, 234 university faculty and staff members, 415 symposium and conference attendees, and 72 members of the general public.

We track visitors to the Online Artifact Database using Google Analytics. From the database launch through the end of phase 3, the database website had 5,633 visits. There were 113,227 page views, with an average of 20.1 per visit. A visit lasted an average of 8 minutes 57 seconds. New visits accounted for 66.7% of all visits, which came from 67 countries or territories. The majority of visits came from the United States, with Canada, the United Kingdom, Australia, Germany, Mexico, the Netherlands, India, Chile, and Spain rounding out the top ten.

K-12 educators are excited by the potential of the Online Artifact Database to expand their teaching and their students' learning in new directions. Conference attendees are interested in learning how they can emulate what we have done. University and college faculty members near the beginning of their careers are the most accepting of the database and willing to incorporate it into teaching and research. Increasing acceptance of the database throughout the academy is a challenge we continue to face.

Conclusion

The three phases of this project provide the staff of the Museum of Anthropology at Wake Forest University with physical and intellectual control of our object and archival collections and permit us to fulfill our educational mission rigorously. By making the Online Artifact Database freely accessible to anyone using the web, we provide research and teaching support for our university and reach out to visual learners worldwide.

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