

Dissecting a Database: Leading Students to Discovery-Based Learning

SCIL Open House, January 30, 2004

Presenters: Cinthya Ippoliti and Dominique Turnbow (UCLA Biomedical Library)

At 10:00 am on January 30, twenty-three librarians sat expectantly at their workstations in the well-appointed Pollack Library 4th floor classroom, patiently awaiting the beginning of the first session of the day. Imagine their surprise when, instead of launching a lecture, the presenters distributed blue activity sheets to the group, instructing each attendee to answer all six questions within ten minutes! Once recovered from the gentle shock of being asked to perform actively instead of listening passively, everyone rallied and tackled the task at hand with determination: to examine the freely accessible PubMed database and respond quickly and intelligently to a series of open-ended questions. Discovery-based learning is defined in the ERIC thesaurus as a “learning situation in which the principal content of what is to be learned is not given but must be independently discovered by the learner”. In the best tradition of this learning process, the presenters gave workshop attendees the bonanza of uncovering new knowledge for themselves instead of having it thrust upon them by experts.

The presenters had hoped to further model good instructional practice by asking audience volunteers to come to the front of the classroom to report their discoveries about PubMed to the class as a whole. However, as not one attendee volunteered, the presenters themselves led a lively group discussion of audience responses to the six questions. Ippoliti explained that the exercise was designed to prompt students to survey this and other databases looking for typical database characteristics and capabilities as well as unique features. The UCLA Biomedical Library’s exploratory approach to teaching databases originated several years ago when the uniform California Digital Library interface, previously the front end for all UC databases, was abandoned in favor of unique database interfaces. Resourceful UC librarians quickly devised a system to demystify students puzzled by the plethora of different screens that had suddenly appeared on their desktops. The first learning tool designed was a question and answer list of things to consider when using any database as well as a few tips on checking for specific features. Sample questions included: What is in the database? What does it search? Does it search by word or phrase? Is there an online thesaurus? What can I do if I get too many results? The “Tips” section recommended a careful examination of the screen and the liberal use of help menus. The original question list, with some modifications made over time, is presently online under the “Help” section of the UCLA Biomed Library website at <http://www.library.ucla.edu/libraries/biomed/quickguides/dissectingdb.html>, and the presenters explained that they are currently designing an online tutorial based on this material. Furthermore, the database dissection approach regularly finds its way into the instructional classroom where classes of approximately twenty UCLA Biomed students working in small groups complete activity sheets just like the one attempted by sCIL members and subsequently present their findings to the group at large.

UCLA Biomed librarians have also developed a variety of customized approaches for different groups of users, including nursing, psychology and life sciences students, employing a series of grid handouts where responses to questions about different databases may be recorded in class (a completed comparison grid appears at http://www.library.ucla.edu/libraries/biomed//tutorials/db_compare.html).

Animated discussion followed the formal presentation as several attendees shared our concern that students at our institutions would not be as sophisticated as medical and life sciences students at dissecting databases on demand. Both presenters assured us that the class format is adaptable and flexible, particularly since the time freed by the absence of an in-depth demonstration of database features to the class can be used to assist slower participants. Similarly, they assured us, time management issues as a whole are less of a problem than in more traditional classes because most students are able to use the allotted class time to teach themselves database navigation, freeing the instructor of the need to inject a predetermined amount of content into the class. Discussion also revealed that a variety of approaches to assessment are used: Turnbow takes notes during student presentations to make sure that each major concept is uncovered by at least one group per class; feedback is solicited from students' instructors; 3:2:1 cards (after Cross / Angelo) are completed by students at the end of each class, complete with e-mail addresses so librarians can follow up on areas that were not understood.

Many of us in attendance at this workshop had for some time harbored a suspicion that we should be seizing opportunities to teach students the many commonalities among the diverse families of databases we all demonstrate in and out of the classroom every day. This practical workshop supplied us all with the tools to take the UCLA Biomed approach to dissecting a database into our own classrooms, a development that can only be a positive one for us and for our students.

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