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Evaluating Engineering Reference eBooks

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A funny thing happened on the “Road to Damascus.” I set out to write an article detailing the University of Arizona's experience with ENGnetBASE, an electronic database of engineering handbooks. However, by the end of the process, it had become clear that the real story is the importance of getting quality user feedback and using it to make sound renewal and cancellation decisions. Ultimately, based on information we gleaned from our users we chose to cancel ENGnetBASE.

Library users want access to electronic content anytime and anywhere. In our assessment of ENGnetBASE we learned that cultivating better-informed patrons results in more realistic expectations around the selection and request for electronic resources. Our journey of enlightenment clearly demonstrates that librarians must continuously engage users in a scholarly communication dialogue. When library users understand the implications of the various cost and pricing models, they, too, see the light.

About a year after I arrived at the University of Arizona, I discovered that the majority of users from the departments for which I am the library liaison had little understanding of the actual costs of the resources they use. I began the practice of opening my library instruction sessions with a challenge: “Guess how much the library’s combined operations and information resources budget is.” Hesitantly, participants called out numbers while I repeated “higher, higher” until someone yelled out an astronomical amount. I would then reveal the true figure. No one (including the instructors) ever came close to the actual figure of $18M. This sixty-second activity would then evolve into a meaningful scholarly communication conversation and ultimately, led to the inclusion of several specific information literacy learning objectives in several chemical engineering course syllabi.

The Accreditation Board for Engineering and Technology programs has a criterion that states, “Engineering programs must demonstrate that their graduates recognize the need for, and have an ability to engage in lifelong learning.” The College of Engineering’s Accreditation Committee at the University of Arizona has adopted the position that information literacy forms the basis for lifelong learning. The Chemical & Environmental Engineering (ChEE) Department has integrated information literacy skill-building into its curriculum as one pedagogical approach to teaching the acquisition of lifelong learning skills. Assignments in core courses ChEE 201 & 326, and elective courses ChEE 455 & 555, require students to develop information literacy skills as part of the course objectives. One objective specifically calls for the ability to effectively evaluate information resources. Therefore, students in the courses cited above were targeted to evaluate the functionality and general usefulness of ENGnetBASE.

The Engineering Libraries Division (ELD) of the American Society for Engineering Education established a Best Practices for Electronic Resources Task Force to compile a list of issues to consider when evaluating electronic products. Their top issues are: 

Endnotes

3. Jeffrey Daniels', Electronic Resource Manager, assistance was invaluable in creating the checklists and implementing the process.

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which allowed librarians to claim ownership of the electronic resources they discovered and wanted added to the collection. Checklists were divided into three sections, an initiation section, one for technology and collection development, and one for the point person. While primarily meant for databases, these checklists were also used for full text resources and can be adapted to eBooks. The most useful application would be for packages or bundles, rather than an individual book. In that case the publisher or vendor should be evaluated for the criteria to see if adding books one by one over a period of time would be worthwhile.

The evaluation begins with the librarian, at the grassroots. These are the people working with students and faculty and who discover a need and often a new product, either through their own professional reading or through a faculty recommendation. The initiation phase evaluated current holdings and collections to evaluate the need for additional resources. At this phase a small group was also formed to evaluate a trial and evaluate the curricular needs for the resource. If it was decided that the resource was a good fit, then the next phase began. At this stage, the Collection Development librarian and the Electronic Resources team examined funding and all the technical issues involved in obtaining the resource. If a positive outcome occurred, a recommendation was made for funding or the resource may be placed on a tiered list for consideration. The final phase took place after purchase and was titled the point person phase. This involved selecting a librarian to serve as point person to market the resource to faculty and students and to teach other librarians and staff about the resource. If the resource is subscription based, a review takes place prior to renewal time.

The final phase of implementation for eBooks is marketing. As Robert H. McDonald and Chuck Thomas have pointed out, “Research libraries have done little to embed eBooks in the practice of opening my library instruction.” I set out to write an article detailing the University of Arizona’s experience with ENGnetBASE, an electronic database of engineering handbooks. However, by the end of the process, it had become clear that the real story is the importance of getting quality user feedback and using it to make sound renewal and cancellation decisions. Ultimately, based on information we gleaned from our users we chose to cancel ENGnetBASE.

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<http://www.against-the-grain.com>
When I left my students like many have a<br/>mentality about everything. “If we have to be<br/>advanced search feature. Spending a few min<br/>utes reading the instructions on the main page<br/>to search within specific books required an additional click to get to the<br/>Entertainment section of the database, as related to some of the issues from<br/>Eld’s Best Practices for Electronic Resources<br/>The biggest complaint about the database<br/>was its failure to mimic its print equivalent; users indicated it was much easier to find the information in a physical book. The second biggest complaint was the huge number of hits a search retrieved and the subsequent frustration in having to comb through the information to find answers. The reason was that the search box on the main page searched the entire Website. To search within specific books required an additional click to get to the advanced search feature. Spending a few minutes reading the instructions on the main page would have minimized this problem. However, my students like many have a Google-like mentality about everything. “If we have to be instructed on how to use a resource isn’t that an inherent flaw in the design?” voiced one student, yet echoed by many. Students resented having to stop and read the online help feature to figure out the most effective way to search. Several students referred to the user interface as non-intuitive which speaks to the importance of user-centered designs.

Lastly, the inability to use the browser’s back button to return to the previous page where the search was initiated was considered “a rookie mistake.” Not being able to use the browser’s back button meant one could not modify a previously executed search. This problem was immediately fixed in the succeeding iteration of the software. Generally speaking, most of the problems, to one degree or another, have been resolved in subsequent iterations of the database, as one would expect.

However, after our in-class information literacy-focused discussions regarding ENGnetBASE as related to some of the issues from ELD’s Best Practices for Electronic Resources, the students were able to provide more relevant feedback. For example, a number of students did not understand the fairness of a subscription-pricing model whereby the library would not own access to any materials once the subscription ended. In their minds the types of activities they would use ENGnetBASE for would be primarily to gather facts, figures, graphs, etc. This is information that does not need updating on an annual basis. I learned that a number of students received handbooks as high school graduation gifts; these were passed on to them as heirlooms. Handbooks were once considered the definitive resource in their field. Also, many of the department laboratories have old copies of various engineering handbooks on hand for anyone’s use, or they can be found on a number of instructors’ office shelves, which students can borrow.

Our conversation evolved into a debate on the types of resources that added academic value to the learning experience, and those that added convenience. This dialogue introduced me to a genre of information resources that was not on my radar, such as software products that blend technology and information content, such as the line of AspenTech products. AspenTech produces software that allows students to simulate theoretical concepts; some of their software provides access to content previously owned by other entities. These products are widely used in corporate settings, and one’s ability to use these types of products gives one a competitive advantage against other candidates when competing for jobs. Not surprisingly, this discussion became
one of competing interests; students began to question the value of ENGnetBASE in lieu of what they considered more important resources. Their final recommendation was that librarians should figure out a way to get ENGnetBASE to substantially reduce their subscription cost if we are never going to own the material.

In some ways ENGnetBASE was a victim of the newfound knowledge the students gained during this evaluation process. Previously, I repeatedly heard from those I worked with that they wanted the library to convert our print material into electronic when possible. Now I hear from my more vocal users that we should prioritize what we convert to electronic from print and concentrate on purchasing more software-related resources that blend software and technology, material not traditionally purchased by libraries. The truth of the matter is that prior to evaluating ENGnetBASE, neither my patrons nor I seriously considered the appropriateness of the library purchasing electronic content that was more for manipulation purposes than content retrieval.

However, I have recently become a new convert, and agree with those who see the purchase of blended software as a legitimate expense that should be covered by information resource budgets. Currently, I am working on a project with a colleague to coordinate the purchase of a campus site license for ChemOffice Ultra. ChemOffice Ultra includes ChemDraw, Chem3D, BioDraw, high level applications such as E-Notebook, Inventory, and BioAssay, and the databases ChemACX, ChemID, & NCI, and Ashgate Drugs 2.1. In this instance our library paid for a site license for ChemOffice Ultra for one year, with the understanding that we would use the year to collect usage statistics by colleges. Our expectation is that once the colleges see the usage numbers and cost savings of a campus site license they will be on board. Researchers and faculty often buy software directly from vendors using their grant funds and doing so can sometimes bypass their campus purchasing or procurement departments. Therefore campuses do not always have an accurate picture of the amount of money they are collectively spending on subject specific software. Typically, an accurate financial picture for the whole campus is only available from the vendor, as we discovered at my university.

Of course, deciding to aggressively pursue these types of products has considerable implications on libraries’ information resource budgets as well as many of the current scholarly communication issues. Yet, I have noticed that students and faculty are a bit more accommodating with pricing models for subject specific software packages that favor access over ownership. Why is that? Some say it is because these types of products add academic value and others point to the fact that students become more marketable by using the same subject specific software packages they will be using when they enter the workforce in their respective careers. One associate dean said having campus-wide access to certain subject specific software packages is an asset when trying to recruit new students.

It may be unfair to judge a book by its cover, but when it comes to format preferences for engineering reference material the jury is still out at the University of Arizona. When stacked side by side with other resources, the current pricing models are not enticing. Issues around the benefits of the portability of the information also received a lukewarm reception. I will never be able to convince my users of the benefits of ENGnetBASE until we get a budget that can accommodate all of their other subject specific software requirements, and this may be a good thing. Now when I send out correspondence designed to solicit information on resources needed, I receive well thought-out replies rather than utopian statements. Engaging in intellectual exchange paves the path to mutual understanding and informed decision-making.