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Introducing Electronic Information Services to First-Year Composition Students: Pedagogical and Practical Concerns

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--ABSTRACT--

More and more of the college and university library's resources are becoming computerized. As first year students enter the library, they are often confronted with an overwhelming array of computer terminals and workstations. While some students are avid computer users, others are fearful or intimidated. Regardless of one's proclivity towards electronic resources and services, the first year student must learn how to evaluate the relevancy of each of the various systems to their own research needs and make a selection that is best suited to their particular tasks.

This presentation will review general considerations and guidelines for including electronic library resources into the research component of first year composition classes. Introducing computerized databases into the research process presents numerous challenges to the composition instructor. Parting from the traditional research strategies often presented in the published research guides may lead the instructor into uncharted territories. Yet, the availability of electronic sources has become so prolific that ignoring them or minimizing their use would be an extreme disservice to the students. CD-ROM technology and locally mounted databases have brought sophisticated searching capabilities into the hands of the entire university community, including first year undergraduates.

A strong research component in the first year writing course can provide a firm foundation on which advanced thinking and writing skills can develop. While the vast array of electronic resources may present exciting or intriguing possibilities, instructors must be careful not to overwhelm the students with too much or to present online systems as the "best" answer for every research need. Putting these electronic resources into an appropriate context for the beginning researcher is paramount to teaching their effective utilization. A thorough presentation of the research process, with its conceptual underpinnings and strategies, provides the broad framework within which these resources may be most effectively utilized. In this presentation I will discuss selecting databases and using electronic resources in the introductory level composition course. A close working relationship with the instruction librarian will help to ensure adequate coverage of electronic services for the novice researcher and maintain an appropriate balance with print sources as well.

While taking advantage of the improved access to information through electronic means, educators must integrate critical thinking and evaluative skills throughout the students' research and writing processes. The many options available in our information-rich society force us to make choices, and we must help the first year students realize that "computer," though it may provide "opportunity," does not always mean "best."

Introducing Electronic Information Services to First Year Composition Students: Pedagogical and Practical Concerns

I. Introduction

More and more, computers are becoming integrated into our classrooms, our offices, and our homes for a myriad of applications. What were once thought of primarily as "number crunchers," have evolved into sophisticated information and communication systems. Technological developments are providing opportunities to gather information on every conceivable topic, in a vast array of formats, and from anywhere in the world. We are able to manipulate that information, transforming simple data bits into charts, graphs, reports, video images and sound, and integrate it all together into a final presentation, whether a written report, a speech, or simply an understanding in our own minds. All this from a single workstation.

Managing this new environment, in which information has become truly one of the most valuable commodities in the marketplace, is critical. It's been said that today, human knowledge roughly doubles each year, and the "shelf life" of expertise in any given field grows shorter each day (Gifford). We can no longer keep abreast of the rapid changes taking place in our world by relying solely on locally available resources. As our society becomes more dependent on information we must become knowledgeable in the ways and means of identifying, locating, and, most importantly, evaluating that information. The library is in a position to play a key role in assuming some of this responsibility, and technology has become one of its primary tools.

Traditionally, libraries have been considered the storehouses of the world's knowledge bases. Each individual library, however, can acquire only a very small portion of the available information. As large as any collection might be, it can represent only a selective sampling of all that might be written on any given subject. As Jesse Shera wrote over 20 years ago, the mission of the library is to "bring together human beings and recorded knowledge in as fruitful a relationship" as possible. Further, he states that libraries are to "match two patterns -- the pattern of human thought to the pattern of organization of the library." With the integration of technology into the library organization and into scholarship in general, new patterns are

developing on both sides of that balance. In order to accomplish this matchmaking, indeed, we must build our technological infrastructure. But more importantly, we must lay an intellectual foundation as well, rethinking what it takes to bring together human beings and recorded knowledge (Gifford).

II. Research as Process

Libraries continue to be "storehouses", but now, with some very important distinctions. They have embraced and taken advantage of the growing functions of technology. They are able to provide access to information wherever it may be located. They are becoming more process-oriented rather than location- or collection-oriented. And, they have assumed a much more active role in the educational process of those who utilize its resources.

When approaching this formidable array of information sources, in all the many formats, a novice researcher could easily become overwhelmed, intimidated, and feel completely unprepared to make informed decisions and judgments. The first year composition student may be expected for the first time ever to write a "comprehensive" research paper, and have no conception of how to approach such a task. Understanding that there is a logical process for approaching library research can be a first step in guiding the student toward successful research. Using a conceptually-oriented approach will provide the theoretical underpinnings of the research process, which can then be applied in other circumstances -- any topic, any library, any resources. Too often we fall into the trap of teaching students only how to use specific sources without first teaching them why they should use that particular tool. This limited approach will not prepare them with the skills and knowledge necessary to make independent judgments in future situations.

Many of the published research handbooks and textbooks for freshman English courses present lists of "standard" library resources. However, no single text can ever keep up to date with the amount and breadth of information that is available. There is simply too much. An analysis of the coverage and treatment of libraries within these texts indicates uneven, and in some cases, misleading information. In a recent study conducted by John Lent at Kent State University, in which he examined freshman English textbooks for their treatment of libraries

and library resources, he found that 16% of the texts make no mention at all of a process or strategy for conducting library research; in fact, only 16% explicitly refer to such a concept. Without an appropriate framework within which to apply these resources, the resulting "research" will surely reflect less than optimal results.

[research strategy transparency]

This strategy suggests one approach to conducting library research. It is important to understand that this simply presents a starting point. Each individual will normally utilize each of the steps identified here at some point throughout the research process, but they may "drop" in at different places, spend more time in one of the stages, or return back to a particular step. Research is a very fluid process, directed largely by the researcher. So while a single strategy may not fit each person, these key components should be present.

The first several steps -- *Selecting a Topic*, *Finding Background Information*, and *Refining the Topic* -- are of critical importance, and are too often minimized or overlooked. The foundation of any successful research is a general understanding of the topic. This understanding will set the stage for the successive steps of finding relevant and appropriate information. *Contemporary Information* and *Retrospective Information* are the predominant information gathering stages. This is where one's understanding of the topic really gets played out in the library. Applying the concepts and terminology gleaned from the overview will help the students to select useful sources for their research. Once the information has been gathered, the process of *Analyzing and Synthesizing the Information* begins. Thoughtful review of the entire process is useful at this point to determine whether all of the hypotheses have been adequately addressed, whether enough information is available on which to base conclusions, etc.

As novice researchers, first year students may not understand or even consider the relationship of the published literature to the particular topic they are researching. Because there is so much information available -- much of it published under less-than-rigorous review -- in so many different formats, and because so many students tend to prefer computers over print sources, there is perhaps now, more than ever before, a greater need to emphasize the evaluation

of sources. The computerized database may not be the best choice for each student. Each individual topic will determine the appropriate types and mix of sources that the student should use. For this reason, the development of the topic warrants further review.

[question analysis transparency]

A useful framework for analyzing a research question and developing a topic includes the following intellectual steps (taken from Beaubien, Hogan, & George, Learning the Library):

1. Surveying the topic and clarifying unfamiliar terms

As previously mentioned, finding enough background information will help to identify key concepts surrounding the topic, major players in the field, critical events or turning points in the development of the field, and the terminology as it is used by researchers in the related disciplines. Terminology is becoming increasingly important as more computerized databases offer enhanced search capabilities. It is important that students understand the relationships of the concepts -- hence the terms used -- in order to most effectively utilize the capabilities of these electronic sources. Useful resources for finding this information may include instructors or others knowledgeable in the field, textbooks, encyclopedias, dictionaries, or handbooks.

2. Breaking the topic into its simple components/subtopics

This can be derived from a clearer understanding of the issues surrounding the topic (step #1). As one is gathering background information, it is useful to consider various perspectives from which to approach the topic, subtopics, or related subjects which may be referred to. It is important to comprehend the many avenues of possible inquiry and to make a conscious decision about which one(s) will be chosen.

3. Listing the relevant disciplines concerned with the topic

Since literature is generally organized by and disseminated within certain disciplinary parameters, it is important to consider which disciplines publish information about the topic, and whether interdisciplinary research is appropriate. The nature of the discipline itself will govern to some extent the materials used.

4. Determining appropriate formats of materials necessary to research the topic

Formats of materials are often dependent on the nature of the discipline, too. For some topics, secondary sources (listed as *retrospective* in the research strategy diagram), such as books or some audiovisual materials, may be most appropriate, whereas for others, primary sources (listed as contemporary in the earlier diagram), such as popular magazines, scholarly journals, or newspapers, may be most appropriate.

5. Specifying the quality of authority of material needed

For the topic selected, one must ask whether information from the popular press is adequate, or is published research from scholars in the field more appropriate? Will newspaper accounts provide sufficient insight into the topics or events, or is a more thorough explanation required? The authority, reliability, and credibility of the works used will be reflected in the final product, so care must be given to choosing the best sources for the level of authority needed..

6. Estimating the quantity of material needed

This may be driven primarily by the expectations of the final product, though it will also be dependent on the topic and the availability of resources. The nature of the topic may also govern the number of books, for example, versus journal articles that should be used.

7. Budgeting the time available to do the research

Directly related to the quantity of material required, questions to consider in regards to time include: Will databases refer to sources not held locally? Is enough time available to request items from other locations?

8. Indicating the types of reference materials that will help to identify & locate the necessary information

This is a culmination of the previous steps, usually entered into with the assistance of a librarian. Different sources will be used to identify different types of materials. For example, to identify books available locally, a local library catalog will be used; to identify books available elsewhere, a published bibliography or a remote online catalog may be

used. Journal articles in a given discipline will be identified in a specialized index for the appropriate field, whereas the popular magazine or newspaper articles may be located through a general index or an index to the specific newspaper.

This is, I believe, where many of the published research handbooks fall short. They tend not to provide enough information for the students to make informed judgements about selecting the best sources to use for their research.

III. Including Technology

With the tremendous influx of electronic resources into academic libraries, many instructors take extreme positions in their views of technology in library research. Many become enamored with the enhanced capabilities and ease of use of the "new" computerized systems. These instructors advocate the use of the computer for all of their students, without regard to the topic they are researching. On the other hand, there are those who remain reluctant to consider these systems for fear of what they probably don't fully understand. These individuals tend to ignore the advantages that the electronic sources have to offer, and therefore limit access to what could be a virtual treasure chest of information for a particular topic. Both of these scenarios are played out each year in the library in which I work. These extremes must be balanced in order to teach the students how to become truly independent researchers.

In the published research handbooks and textbooks, library technology is still a very mixed offering. Lent found that nearly a third of the texts said nothing about the use of technologies in libraries. Of those that do, most cover only online catalogs and remote online database searching. Only 16% mention CD-ROM databases, which have almost doubled in number each year for the past five or six years, and in many cases have virtually replaced online database searching, especially for first year students. Not one text that I reviewed mentioned locally loaded databases available on a campus-wide network. These options are becoming increasingly available and cannot be ignored. Students will use them, and we must offer the guidance that is necessary to make them productive and efficient users.

Some criteria to consider in evaluating and selecting library resources and systems include the following:

General Resource Evaluation Criteria

- v **Subject relevancy.** Only with a fairly thorough understanding of the topic can a researcher decide what disciplines are most appropriate for reporting on the research in that subject area. How broadly the student approaches the topic will be a key factor in choosing the most relevant source. For example, the student looking for information on health care must consider whether they will concentrate on the political ramifications of health care reform, on health care among the elderly, on the economics of mandatory health insurance, etc. The specific focus taken will clearly determine the relevancy of using Medline (or Index Medicus), versus the Public Affairs Information Service Bulletin, the Business Periodicals Index, or yet others.
- v **Time period covered by the source.** Many of the computerized systems have been developed only in the last few years and the materials included may reflect only a short period of time. For example, our online catalog is complete only since 1976, with spotty coverage for materials acquired before that time. If the research requires that one use texts published in the 1950's, chances are, they will not be included in the online catalog. Students must be aware that other materials may only be listed in print sources or the card catalog.
- v **Level of material.** Some indexes, such as Reader's Guide to Periodical Literature, refer to primarily popular magazines, while others lead researchers to scholarly and technical papers, conference proceedings, manuscript collections, and the like. The student's level of knowledge about the selected topic will determine what sources he/she is able to comprehend in their own research. Expecting a student to rely solely on the scholarly literature may be beyond his/her level of comprehension (which is not to say that they shouldn't be "pushed"). We must remember that what comes second nature to many of us, may be entirely outside a student's life experience. If they are working on literary criticism, for example, they may not be ready to tackle the *MLA Bibliography*, but perhaps the

Humanities Index, which serves as an entree into the scholarly literature without overwhelming them with the very advanced scholarship in the field, would be more suitable.

- v **Type of material.** Again, the nature of the topic will be key to determining the type of material to be used in one's research. For many historical topics, for instance, a greater reliance on books than articles may be well justified. Finding journal articles or personal correspondence which discuss a particular battle in the Civil War may prove rather difficult through a search of periodical indexes, whereas a book may provide a broad overview of the war with detailed discussions of specific battles. Or, if one is researching the issue of health care reform, and has chosen to focus on the public policy issues, government documents may be indispensable to finding the needed information.
- v **Breadth of coverage.** This criteria considers how broadly the particular source has defined its "universe" of materials for inclusion. Features to look for include : comprehensiveness of the indexing (i.e. does it index every article/paper in a given publication, or is it selective?) Are international materials included? Does it include only English-language materials? Does it convey only certain viewpoints or include materials published by only selected sources?

Electronic Resource Evaluation Criteria

Numerous checklists and guidelines have been developed to assist users in evaluating new technologies. While these criteria are less subject-oriented, the usability of the system becomes an important feature in facilitating access to the actual information. Some of the more relevant issues to consider include:

- v **Interface functions.** Specific features to consider here include screen design and layout, use of color, spacing, terminology, availability of Help screens and tutorials, clarity of prompts and menus, and operating system (i.e. Macintosh, DOS, Windows) -- in general, how easy is it to navigate through the system?
- v **Search capabilities.** Search capabilities are the features that make electronic sources so valuable. These include:
 - use of controlled vocabulary and/or free-text searching

- searchable fields (such as inclusion of abstracts, ability to search by journal name, etc.)
 - different levels /modes of searching, including command-driven or menu-driven
 - availability of Boolean searching (AND, OR, NOT)
 - availability of truncation
- v **Search management.** A number of functions are available on some systems that greatly facilitate searching, although they may not be critical to one's use of the system initially. These functions include:
- ability to review the search history
 - ease of starting over
 - ability to easily switch from one database to another
 - ability to re-execute a search in another database
 - ability to mark particular records, and print or download them

Conclusion

The general message I have tried to convey can be summed up in one word - evaluation. At whatever stage of the research process, or whatever source is being looked at - print or electronic - making informed decisions to evaluate the usefulness and appropriateness of any information is critical. Regardless of one's proclivity towards using electronic resources and services, the first year composition student must learn how to evaluate the relevancy of any system to their own research needs and make a selection that is best suited to their particular task.

Introducing computerized databases into the research process presents challenges to the composition instructor. Parting from the traditional research strategies that are often presented in the published research guides may lead the instructor into uncharted territories. Yet, the availability of electronic sources has become so prolific that ignoring them or minimizing them would be a grave disservice to the students. CD-ROM technology and locally mounted databases have brought sophisticated searching capabilities into the hands of the entire university community, including first year undergraduates.

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to present online systems as the "best" answer for every research need. Putting these electronic resources into an appropriate context for the beginning researcher is paramount to teaching their effective utilization. A thorough presentation of the research process, with its conceptual underpinnings and strategies, provides the broad framework within which these resources may be most effectively utilized.

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I'd like to conclude with a statement made by Charles Gilreath, president of the Reference and Adult Services Division of the American Library Association:

"Certainly, we should not back away from the technological changes that are inevitable in our personal and professional lives, but we must adopt these changes only when we are confident that the technology will be servant to, rather than master of, the goals and values we seek."

Gilreath, Charles (President, RASD). "A Brief Dissertation on Values and Technology." RQ, 33,1 (Fall 1993), 11-12.

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