Navigating Information, Facilitating Knowledge: The Library, the Academy, and Student Learning.

By

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Abstract: *Understanding the nature and complementarity of the phenomena of information and knowledge lends not only epistemological clarity to their relationship, but also reaffirms the place of the library in the academic mission of knowledge transfer, acquisition, interpretation, and creation. These in turn reassert the legitimacy of the academic library as necessary participant in the teaching enterprise of colleges and universities. Such legitimacy induces an obligation to teach, and that obligation needs to be explored and implemented with adequate vigor and reach. Academic libraries should assume a full teaching function, even as they continue their exploration and design of collaborative activities and programs aimed at reinforcing information literacy in the various disciplines on campus. All must concede that need for collaboration cannot provide grounds for questioning the desirability of autonomous teaching status for the academic library in information literacy education.*

Introduction

Thank you to Dr. Werner for the invitation, and to Dr. Dugall and the Frankfurt University Library for the efforts that made this conference possible, and of course to Ms. Linda Fairhurst, whose tirelessness with logistics was indeed a delight. I will be making three arguments. First, I will insist that contrary to what many in the literature continue to suggest, for the purposes of the academic library and what it can do, the concept of information literacy has been defined adequately enough to provide an understanding upon which concrete actions can be taken on the part of the library (both collaboratively and independently). That is, we know what information literacy is from the point of view of the library's desired contribution to the training of information literate students. All one has to do in the definitional sphere is acknowledge, and operate from, an existing consensus that dwarfs any differences the major definitional attempts have cared to point out between themselves.

Secondly, turning to the title of this conference, I will submit that for information disseminators such as libraries, the question of what the difference is between information and knowledge is a rather inconsequential one. This is so because the two concepts and the phenomena they identify are indeed complementary concepts and phenomena. Furthermore, libraries, almost always, deal with knowledge in its information form. The information form of knowledge is the tangible form that allows for the transfer and use of available knowledge. Knowledge that has not become information can hardly be an object for collection, organization, and dissemination by libraries.

This approach to the concept of information, you might notice, is from the perspective of libraries and their role. I do not suggest that all disciplines should see information the same way. There are obvious contextual variations within various professions. For libraries, however, it is such a perception of information and knowledge, a perception that accepts the virtual inseparability of the two phenomena, that makes the development of collections, their organization, dissemination, and use, socially desirable goals. Such a convergence of information and knowledge also places the library in a critical role in information literacy education.

Finally, I will argue that knowing what information literacy is, and conceding its importance to the educational mission of preparing students for life during and after college, and being aware of the nature of the relationship between information and knowledge and the implications of that awareness for the selection and use of information and knowledge, should make acceptance of the critical role and place of the library in contemporary higher education a logical conclusion. Yet the library has not found its deserved place in teaching and its educational activities remain limited. That has been partly the result of a self-imposed sentence. The magnitude of a direct teaching role and the challenges that entails has often forced many well-intentioned members of our profession into capitulation or acceptance of solutions that offer less challenge. I will appeal for greater participation of the library in college and university teaching.

Information Literacy: The Consensus

Now let us turn to my first task: demonstrating the existing consensus on the definition of information literacy. Before that, however, let me address briefly the first element in the title of this symposium, literacy. Applied to information as in the case of information literacy, literacy may be seen as competency or fluency. Some have actually suggested substituting those terms for literacy in the delineation of the phenomenon covered by information literacy. I see no need for such substitution, nor merit in such deliberations. All three concepts involve degrees of comfort, awareness or expertise. None suggests an end point. Varying and ever improving degrees of achievement characterize all three. So calling information literacy ‘information fluency’ or ‘information competency’ does not improve understanding of the specific parameters and content of the phenomenon. Let us therefore avoid that phantom controversy and begin with the definitional consensus on information literacy, the widely used name for a phenomenon at the core of the academic library’s desired contribution to the education of students.

Paul Zurkowski, president of the Information Industry Association, a Washington-based trade association representing firms and corporations involved in the creation, management and distribution of information, is widely cited as the first to use

the term. He did so in 1974 in his attempt to identify a new educational need for American citizens. Zurkowski connected that need to the proliferation of information and information technologies. He defined the new concept as an instrument for redeeming citizens from an inevitable avalanche of proliferating information that threatened to engulf those lacking in the skills and tools to operate within and maximize the use of emerging information technologies and the intellectual resources those technologies provided access to.

Reacting to that call some 15 years later, the American Library Association (ALA) weighed in with a seminal work that defined the scope and focus and laid down the aspirations and parameters of information literacy. According to ALA: "To be information literate, a person must be able to recognize when information is needed and have the ability to locate, evaluate, and use effectively the needed information" (American Library Association Presidential Committee on Information Literacy, 1989, p. 1). Though there have been several discussions on the meaning and scope of information literacy, and writers like the Australian Christine Bruce (1997) and Americans Christina Doyle (1992) and Carol Kuhlthau (1993) have gained prominence with their efforts, the fact remains that virtually all of these writers adopted in one form or the other the basic elements of the 1989 ALA definition (for more detailed discussion of this point see Owusu-Ansah, 2003).

The Association of College and Research Libraries (ACRL), a division of the American Library Association followed that trend with its *Information Literacy Competency Standards for Higher Education* (2000), which has become the most authoritative document on information literacy for academic libraries in the United states. ACRL learned from ALA, Doyle, Bruce, and Kuhlthau. It reiterated ALA's definition, incorporated Doyle's seven attributes, acknowledged Bruce's phenomenography, and embraced Kuhlthau's holistic approach. But the core of its definitional attempt remained ALA's 1989 definition and the expectations deriving from or subsequently articulated in response to and consistent with that definition. Europe has also had its discussion on the definitional issue and Sirje Virkus (2003) provided a detailed account of that discussion in her article "Information Literacy in Europe: A Literature Review." As Virkus' observations demonstrate, the European attempt at defining information literacy, just as was the case with the Australian and American endeavors, produced no fundamental deviation from ALA's 1989 definition of the concept.

This convergence of opinions has resulted in the identification of requisites such as the ability to identify a research need, searching and evaluating capabilities, proper synthesis of acquired information, as well as ethical and legal considerations in using information. The need for information literacy has been universally associated with demands created by proliferating information and information technologies. There also appears to be consensus on the significance of information literacy as an educational goal and acceptance of its importance to the civic, occupational, and intellectual viability of individual participants of knowledge based societies.

With such overriding agreement, one would expect academic libraries to move on to a discussion of the mission of the college and university and how the information environment that Paul Zurkowski brought attention to, and has since remained on the minds of library advocates and educators (and business, civic and political leaders),

impacts achievement of that mission. That would likely be a deliberation that could generate a lot of energy and induce commitment to concrete actions.

However, the case has never been that straightforward. On the contrary, concurrent with the search for effective solutions, the debate also continues on whether on not librarians should be preoccupied with information or recognize the primacy of knowledge. In their attempt to identify what students should be navigating, accessing and evaluating, librarians have occasionally been tempted into entering the information contra knowledge debate. They have followed the information science propensity to pitch data against information, and information even more ferociously against knowledge. The title of this conference responds directly to those distinctions. Are these distinctions however necessary, do they truly impact what should be done in information literacy education and how that should be done, or are they merely distractions in the quest to define the place of the library in information literacy education? In response to these questions, I will touch upon what I perceive to be the relationship between information and knowledge.

Information and Knowledge: Complementarity not Competition

A close examination of the information-contra-knowledge debates reveals their misguided nature. The participants often assume a distinct demarcation between the two phenomena, even within the library's mission. This perception of clear differences also leads to a hierarchical relationship in which knowledge is seen as superior to information in the process of intellectual discovery and development. Yet, if one were to take a close look at these concepts and the phenomena they identify, one would discover a complementarity and mutual interconnectedness that defies their purported differences. This is not to suggest that librarians should not be concerned with the question of what constitutes knowledge or information.

As Richard E. Rubin (2001) rightfully noted, a resolution of the question of what constitutes knowledge is important for libraries (p. 42). Rubin tied this need to the library's reliance on knowledge to answer patron questions and the library's duty to facilitate the acquiry of wisdom in the hope of benefiting society and its members. I suggest that the clarification of the relationship between information and knowledge is a critical undertaking for libraries, because such a clarification can establish a relationship that facilitates definition of the place of the library in the creation and recreation of knowledge. Furthermore, clarity on the issue should help us avoid pronouncements that insist knowledge, not information, is the goal of information literacy (see for example Marcum, 2002), for the goal of information literacy is both.

However, any attempt to clarify these concepts must also bear in mind Tefko Saracevic's warning about the dangers of approaching the definition of fundamental concepts such as information as though they could be delineated through a precise isolation of their specific content. The definitions provided for such concepts usually involve, as Saracevic rightfully observed, "proceeding by investigating the manifestations, behaviors, and effects of phenomena under question" (Saracevic, 1999, p. 1054), rather than an abstract delineation of structure and content. The task therefore is not to provide answers to what those phenomena are in and of themselves, but to interpret their contextual, and often functional, applications.

To begin with a delineation of the concept of information one could adopt its most fundamental perception as that which communicates meaning. But the information science perception often distinguishes between data, information, knowledge, and wisdom (See Rubin 2001). Information, with its reduced status is seen at times as "an intangible that depends on the conceptualization and understanding of a human being" (Tague-Sutcliffe, 1995, p. 11). This rendering of relative orders of importance and intelligibility creates a linearity in which data sets become the unintelligible building blocks for information. Information becomes raw material for knowledge. Knowledge is viewed as processed and organized information with a purpose and interpretation.

Such a linear representation of the relationship between data, information, and knowledge renders unavoidable the emergence of friction between information and knowledge, since the place of one or the other in the linear order also defines significance. Data becomes basic, information intermediate, and knowledge final. Faced therefore with the question of what comes after knowledge, proponents of such a view must concede finality, which would ultimately stifle any further intellectual progress. However, if knowledge, as a stage in a circularly rotating intellectual universe could feed back into the creation stream and reinitiate growth at a higher level, that is if knowledge could become information again, then the chance for the creation of new knowledge would be enhanced. Fortunately, that is exactly what happens, creating a spiral of intellectual growth and activity. What makes this possible is a more flexible definition of information and knowledge that better approximates their true natures.

Clarification of what constitutes knowledge would be a reasonable part of such an attempt. The preoccupation of philosophers with this fundamental question of epistemology is well documented, and regardless of their differences, philosophers from Plato to the present have all assigned knowledge to the domain of the knower and asserted a cognitive repository for knowledge. They agree that knowledge, regardless of its source or justification, presupposes a knower or aggregation of knowers.

If one then accepts this fundamental agreement that knowledge resides within and is constructed within the knower, then what form does such knowledge take when it leaves the physical confines of the knower through expression and registration in some tangible form. That would be information, which possesses the ability to arouse new awakening and consciousness, and resides outside the physicality of the knower. In short, knowledge, once it leaves the physical entity of its knower, is presented and made available to external users and embodied in some format that guarantees its transmission, becomes information. It may be rendered in print or electronic form, in sound, images or text. Its potential beneficiary is one who seeks or chances upon such recorded knowledge, this information waiting to be acquired, evaluated, used, or reconstructed. From the knower's knowledge emerges information for all who are not the original knower, and it is only in this information stage that knowledge can become the object of a library's attention.

Such a perception of information and its relationship to knowledge removes any potential conflict between the two. It allows for the conclusion that the process of knowledge acquisition, processing and dissemination in libraries is the process of information acquisition, processing and dissemination. This is done in accordance with the library's mission to facilitate acquiry of existing knowledge presented to the library and its users as information, so that those users may arrive at an understanding and

application of this registered knowledge. If these users apply their ascertained information to the reconstruction or creation of new knowledge, their products too would be eventually supplied as information to other users. The cycle of human understanding, explication and creativity thus continues.

With such an awareness of the interconnectedness and often converging nature of information and knowledge, knowers and constructors of knowledge (who are indeed the creators of information), collectors and organizers of information in its multiple tangible forms, and users of all formats of information become entangled in an mutually inseparable relationship, in which each needs the other not only to sustain their activities, but also to add meaning and social significance to those activities. Classroom faculty, librarians, and students, are thus locked in a complex relationship in which the ultimate goal becomes training and supplying the basis for success of the next generation of information creators and users. The desirability of information literacy should be self-evident and the creation of information literate students a clear duty for librarians and subject faculty.

The primary issue then becomes the concrete delineation of methods to provide information literacy training for students. What should the effort look like on the part of the library when we concede the unique role of the library in an educational enterprise that understands the complex relationship between information and knowledge? I submit the role should be a direct teaching role in higher education. But where do we stand with attempts at making the library more central in the education of our students and in our attempts to make them information literate? I will now touch upon the ongoing dilemma.

The Academic Library and Information Literacy Education: Role, Scope, and Method

Students of the history of library instruction in the United States often learn about the role of Ralph Waldo Emerson in the developments that led to the assumption of instructional roles by academic librarians. Those claims, however, merely evoked popularity to assert a necessity. That necessity, the need for students to be more familiar with the discovery and use of the existing knowledge of their fields to ensure their intellectual and professional growth was acknowledged by such outstanding library thinkers and practitioners, like William Poole, to whom these words belong:

> "… the study of bibliography and of the scientific methods of using books should have an assured place in the university curriculum; that a wise and professional bibliographer should be a member of the faculty and have a part in the training of all the students; that the library should be his classroom; and that all who go forth in the world as graduates should have such an intelligent and practical knowledge of books as will aid them in their studies and through life… This facile proficiency does not come by intuition, nor from the clouds. Where else is it to be taught, if not in the college or university? With it, a graduate is prepared to grapple with his professional studies, to succeed in editorial work, or in any literary or scientific pursuit for which he may have the taste and qualification" (Poole, 1893, p. 470).

What else is that but a call for information literacy? The early academic librarians in the United States ventured into the field of teaching bibliography and the use of books. Perhaps it was easier for them, for as Frances Hopkins pointed out, most of these early librarians were regular professors who were responsible for the library only on a part-time basis. To quote Hopkins, "their natural inclination in an academic setting was to teach the use of library materials for academic purposes" (Hopkins, 1982, p. 193). Unlike their early predecessors, however, the professional librarians who were to inherit the legacy of Melvil Dewey's training were eventually to be forced out of the academic mainstream. The return to teaching that the library instruction movement inspired by Patricia Knapp's Monteith College experiment (see Knapp, 1966) initiated would eventually be engulfed by Evan Ira Farber's bibliographic instruction movement (see Farber, 1993).

Academic librarians, facing the restraints imposed by limited budgets and a pervasive image problem that placed them outside the intellectual mainstream of the academy, resigned to a supplemental status and conceded the non-central nature of their potential contributions. That peripheral status would over time be codified in the delineation and institutionalization of best practices that preferred such limited involvement on the part of librarians as those available through course-related and course-integrated instruction. These methods have received widespread endorsement likely because of the staying power of the bibliographic instruction movement that Farber did so much to advance, and his protégés have worked so hard to preserve. Nonetheless, course integration, despite the best intentions and hard work of librarians has at best only gained a foothold in very few institutions and instances. Course related instruction has become the most widespread method of instruction, even though Farber himself saw its potential downside and distinguished participants in the Earlham College approach such as Larry Hardesty acknowledged the difficulties in an approach based on faculty collaboration and their voluntary sacrifice of class time (see Hardesty, 1995).

The reality of current day library instruction in the United States, in spite of all the deliberations and hard work of the information literacy movement, has shown little deviation from long standing practices, even though the content of BI sessions may have seen some minor modifications to accommodate the expanded concerns of advocates of information literacy instruction. Practice has not undermined the limited scope of the bibliographic instruction approach. It has in the majority of cases only given it a new name, information literacy. But the new BI has had to redefine its purpose and concede the need for more extensive responsibility. It has had to accommodate the explication of tool literacies as well as concept literacies, even if all that was to be done within the confines of single sessions that were once almost entirely dedicated to the sharpening of tool literacies.

Herein lies the greatest challenge for information literacy within the parameters and limitations set by the bibliographic instruction approach: doing more in at best the same limited time without confounding students and undermining the educational goals of information literacy. That is a tall order for any educator. It is even more so for those who have hitherto not been a natural part of the classroom. But the need for students to better master the complexities of the information landscape they are confronted with continues to fuel the resultant need for instruction in ways to operate effectively within that environment. Thus the ongoing search for better solutions to the emerging

challenges, in an environment of waning enthusiasm for the library's teaching role. Though some colleges and universities have made significant progress, most have seen a weakening of their instructional significance, and the prevailing realities threaten further loss of ground by the academic library.

The main culprit for this declining trend has been the American adherence to practicality and economic viability, a tendency that has often produced solutions of economic sensitivity that are nonetheless lacking in intellectual as well as educational rationale. But academic libraries have aided and abetted in that decline. In their presumed pragmatism, they have tried to make the most with what is granted and have accepted limited educational roles. They continue to reiterate the dubious assertion that specific subject context is the only justifiable context for information literacy education. They do not see that such a rule could be extended to general education as a whole, and that doing so would in essence mean a rejection of most general education offerings. Consequently, they fail to advocate the extended role in teaching that the academic library deserves in the training of information literate students. They do not realize that they can work collaboratively with subject faculty to teach students discipline specific aptitudes, while still pursuing the more ambitious goal of extensive information literacy education through independent class offerings.

I encourage you to resist the temptation to emulate that example. I urge you to integrate the facilities and expertise of your academic libraries into the process of helping your students define their research needs, find and evaluate relevant material for use, and integrate the thus amassed knowledge into their own existing bodies of knowledge. I urge you to encourage your libraries to play a central role in the process by which tomorrows thinkers, who now stroll the college and university corridors and hallways of today, will come to learn to find and use existing knowledge that comes to them as information, to illuminate contexts and relationships, interpret phenomenon, and construct new knowledge.

I hope you will try to do all this not with the limited reach and contained enthusiasm that has characterized many of our efforts in the United States. Do not encourage your libraries and librarians to only teach a class or two when requested. Do not limit them to student interactions that involve short tours of the library. Do not force them to spend hours preparing for single sessions that yield limited results with students walking away no better informed of the research process, the tools for retrieval, the nuances of quality of resources, the social, legal, and ethical dimensions of the use of the information they get.

Allow your librarians to become full members of the educational enterprise, by conceding that research is something worth learning in and of itself, for if the academy would question student research capabilities as a desired aptitude for graduating students, then who else should uphold the importance of the activity upon which the endurance of our civilization rests? So I urge you to concede what Europe has always traditionally conceded: that nourishing the mind is a good thing, and there is nothing wrong in demanding of students that they master the science and art of the research process from the formulation of their initial queries to the preparation of the finished product. And encourage your colleges and universities and the libraries that serve them to offer credit, as recognition of the need for such mastery, for that is the currency with which recognition of the significance or value of an educational activity or experience is

ultimately measured in higher education. And it is a fair reward that should be extended to information literacy training provided by academic librarians.

In Conclusion

Benno Homann has documented some of the challenges faced by German academic librarians in their role as information literacy educators and discussed progress made (see Homann, 2001). He concluded: "Although institutional and political conditions are not favorable, it seems now that the efforts of a growing number of librarians in this area can be judged as successful" (Homann, 2003, p. 310). As one convinced that information literacy is integral to a good and lasting educational experience (see Owusu-Ansah, 2001 and 2004) I am heartened by that observation. But as Homann himself points out, there is still much work to be done. That is indeed the universal condition of information literacy education. I am however confident that the land that produced the likes of Goethe, Nietze, Kant and Hegel, and nurtured Albert Einstein, will be able to find, produce and nurture librarians for the task of educating toward student information literacy.

You will do so successfully if you decide that is a goal that ought to be pursued. You will not, if you conclude the opposite. And that is not a problem faced by Germany alone. It is one we in the United States still contend with. Our debate is not over and the way we elect to ensure information literacy education is far from resolved. In far too many colleges and universities in the United States, we still struggle with how prepared our librarians are to do their part in information literacy training. We wonder what kinds of teachers they will or can be, and complain about insufficient training for that role. We wonder as librarians how much time we can spend on such activities while still maintaining other core responsibilities without increased funding or personnel. If only we could as academic librarians resolve to be central to the educational enterprise, because we know we are or can be central, and work hard at becoming central, I believe the other issues would likely fall in place. I hope you will also draw that conclusion and demonstrate for all to emulate that there is a place for the library, a central place at that, in the business of higher education, and that that ought to involve universal acceptance of teaching for credit within the desired mission of information literacy education. Thank you for inviting me. It has been truly an honor.

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