

Carefully Defined Terms

The title of this essay was carefully chosen to avoid some of the definition-al quagmires that could be associated with an alternative approach. First, I was careful not to define a particular field, instead opting for the one that any reader may assume if he or she desires to be part of a collective, part of “our” field. At this time, the use of the first person plural pronoun (be it *our*, *we*, or *us*) allows for the broadest-possible umbrella, covering information technologists, librarians, instructional design specialists, institutional researchers, media specialists, administrators in a myriad of different offices, faculty in all disciplines, and all others interested in using the technology to enhance the teaching, learning, research, and administrative functions of higher education. We are a group of *information resource (IR) professionals*, focusing our attention on the information, the technology, and the associated services that support all facets of work in the college or university. The phrase “information resource professionals” will be used throughout this article to refer to this broader definition and scope. If you are one of “us,” pursuing “our” dreams of technology, then you are welcome to join us under this ambiguous, albeit exhilarating umbrella.

Looking at our professional field

Another aspect of the phrase “our professional field” also needs some emphasis and attention: the concept of “professional field.” Defining this within narrow parameters, or trying to define some notion of a specific set of skills or competencies, would be difficult if not impossible and would also be inappropriately limiting. For many of “us,” the interest is in technology itself; for others of “us,” there is little if any interest in the technology per se but rather in what opportunities the technology opens up in some specific aspect of the academy. To try to more narrowly define the field would be to continue the tradition of increasingly dysfunctional stovepipes, at the very time when greater synergy, cooperation, and collective action is necessary. We need to worry less about putting boundaries on the field and more about reaching the goals we are trying to achieve at this momentous time in history.

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Illustration by Barton Stabler

Another point that should be noted in this carefully worded sidestep is that I deliberately avoided using the noun “profession,” since a purist’s definition of the word conjures up a whole set of issues that are largely irrelevant to our work and the way we are perceived. A number of years ago, Peter Lyman wrote eloquently about the question “Is academic computing a profession?”¹ While he noted a variety of factors that have historically characterized professions, he concluded that these are not inherently useful. Instead he defined this subset of “our

community” as a network of colleagues who crossed occupational lines and who were mutually engaged in a social movement. This loose definition would well serve the community that the broader “we” belong to as well. Even if we did decide to try to delineate the parameters of authenticating a group of skills as the core of the “profession,” these parameters would be obsolete in a matter of months (if not sooner). Furthermore, such parameters would probably exclude many of the vibrant contributors who make our field so exciting. The focus of our “professional field” should be on the modifier—*professional*, characterized by having considerable training and specialized skills, using methods that are conducted with character and under certain standards, pursuing one’s craft, and responding to a calling or a greater mission.

The Past and Present

There is neither the time nor the space here to do justice to an actual history of information technology (IT) on campus (much less in other communities). As already stated, if we look at the umbrella under which we stand, we find a tremendous diversity of skill sets and backgrounds. The members of the current “us” were brought together in anything but a linear fashion. Instead, the role of technology has swept over us, as both individuals and occupations, like a fast-moving body of water, and we all have been caught up in the eddies, tides, and currents. It is not particularly important to trace the specific origins, but it is important to understand some of the key trends that have affected us, thus allowing for a better appreciation

of who we are and where we need to be going. The speed of technological change is dazzling to even the most technically sophisticated, but this speed is compounded by the level of change that is being experienced within higher education. Higher education is being completely transformed by the combination of new market pressures, competition, and the opportunities afforded by technology, thus making this a truly remarkable time in the history of the academy. To understand the challenges before us, we need to appreciate two important trends.

Blurring of Distinct Responsibilities

As more and more information has become available in electronic format, formerly distinct organizational responsibilities have overlapped and blurred, creating costly duplication for institutions and much frustration for users. During the past decade, digital information and communications technologies have created an urgent need for new relationships between information technologists and the many other groups in our field (e.g., librarians). Decisions that affect the provision of information services to students and scholars must now involve technology specialists, librarians, faculty members, and key administrators responsible for the allocation of academic and financial resources. Institutions must reorganize traditionally compartmentalized functions to enable IR professionals to effectively manage the demands of the campus.

Information resource professionals today must have an appreciation of the historical, cultural, and technical roles of all information resource functions. In recent years, we have acknowledged an ever-increasing interdependency between computing and the library, as well as interdependencies among other information service providers—those who support media services, instructional design, telecommunications, the print shop, and the classroom needs of the institution.

Shift in Requisite Skills

The changing role of the IR professional can be seen in a brief review of the metamorphosis of technology specialists and librarians. This metamorphosis has occurred in four phases, characterized by the functions of the information providers:

- **Technical do-ers**
- **Service providers**
- **Resource managers**
- **Overseers of integrated resources**

Although the history of information technology dates back only a few decades and that of the library goes back for thousands of years to Alexandria, these four phases are similar for both technologists and librarians.

Technical Do-ers: “Here’s What I Have.” This phase was characterized by having a facility available for use but requiring a highly skilled and knowledgeable user to fully



tap the resources provided. In computing, this was the period of the mainframe controlled by the “priests,” who allowed access to the wonders of the computational power held within computer centers. If you were skilled enough, versed in the requisite languages, and had sufficiently defined and specific computational problems, the facility was there for you to take advantage of. In libraries, this was the period in which librarians offered only printed materials. In each case, the IT professional or the librarian was responsible for maintaining the infrastructure, managing the operation, and supervising a centrally allocated budget. The characteristics of mainframe computers and hard-wired terminals shaped the skills and expectations of technology specialists and users. Similarly, the characteristics of the printed book defined the nature of instruction, scholarly research, professional qualifications, library operations, and relatively primitive concepts of service in the library. In both cases, the allocation of scarce resources provided a dimension of status to the limited and finite set of users. This manifested itself, in terms of computing priorities, in access to a terminal rather than cards for job submission and in turnaround time for different classes of users. In libraries, this took the form of such procedures as literally chaining books to shelves in ancient libraries, restricting service hours for security purposes, and limiting access to the stacks, all of which provided a limited service orientation.

Service Providers: “What Do You Want?” Although the movement into the second phase occurred much earlier in time for librarians, the process of change is remarkably similar in both circumstances. As the demands of readers became more sophisticated, a customer-service orientation

developed, with a focus on sustaining a consistent set of services and developing a systems orientation beyond those controlled by the service providers, for example, “my library.” Librarians recognized the need for universal schemes extending beyond a local collection for the organization of knowledge and began to require bibliographic and disciplinary specializations as part of the professional training. Likewise, as the demands of computer

users matured and equipment capabilities expanded, computer specialists also developed a “systems” orientation beyond “my mainframe computer.” In both areas, those with increasing administrative responsibility realized that the growing complexity made it impossible to be an expert on all issues. The individual manager needed to know the key issues, have a generalized working knowledge of all relevant areas, and depend on a community of experts for advice.

Resource Managers: “What Are We Doing?” A significant change began to occur in the 1990s as more choices and options became available. The information professional in both areas became much more aware of the need to manage people, technology, services, and information itself, all encompassed under the broad umbrella of information resources. As financial demands grew and budgets became ever tighter, strong fiscal and budgetary skills became necessary. With knowledge now widely available in a variety of formats and media, formerly clear demarcations of responsibility blurred, and the need for internal and external collaboration markedly increased. The characteristics of digital technology demanded an ability to deal with capital planning and staff development, as well as with the identification and forecasting of academic needs and priorities. An enormous new resource infrastructure emerged on campus, requiring prudent and sophisticated management skills from the leaders of both the IT organization and the library. But perhaps most important, this phase witnessed a dawning recognition that the role of the library and IT professional involves not solely technology or books, but it is about the use of these resources in the support of learning, instruction, and research.

Overseers of Integrated Resources: “What Should We Be Doing?” The current demands for leadership of information resources require that the professional have all of the skills and roles from the previous phases but also that he or she be a generalist, a boundary spanner, and a partner in the broad institutional schema. The new leader must be literate in multiple languages, including fund accounting, teaching loads, research funding, legal contracts and liabilities, social policies, disciplinary specialties, government policies, scholarly and commercial publishing, fund-raising, and other academic and business lexicons. The focus is on the transformation of the university and the elimination of barriers to the optimal use of technology in support of instruction and scholarship. Rather than being limited to a technically specialized compartment in the institution, IR professionals must have the ability to participate actively in setting institutional goals, to budget in direct support of the institutional mission, and to appreciate and manage diverse cultures and constantly changing user needs.

Perhaps this role change can best be seen in the following listing of the desired qualifications of a chief information officer (CIO):

Qualifications for CIOs

First, and most important, the person should have a vision about the role of information technology in higher education and some clear ideas about where it can make the greatest contributions at your institution. Then:

- 1 **excellent oral and written communications skills, including listening as well, and an ability to communicate well with and at all levels of the institution;**
- 2 **the ability to form alliances and relationships with key campus constituents to make sure that all information technology efforts are in line with the institution’s goals;**
- 3 **the ability to work collaboratively and effectively, both with one’s staff and with one’s peers;**
- 4 **the ability to make and stick to hard decisions that are in the institution’s best interests, combined with the agility to stay flexible and open at all times;**
- 5 **the ability to manage resources in an environment where the demand is far greater than the supply; and of course,**
- 6 **deep expertise in at least one aspect of the technology itself.²**

It is interesting to note that by and large, these are managerial and leadership skills, not technical skills. Although the last item was certainly more than an afterthought, the expected technical expertise is far less prominent than it was even just a few years ago. In the leadership role, or in any other aspect or organizational level of our profession, there is a demand that we increasingly assume the roles of teacher, facilitator, coach, and partner. If we are to help in the exciting transformation of higher education, we must help others achieve their goals, and that will require all of us to assume more generalized roles, rather than the historical, narrow, technical roles.

Implications for the Future

The following suggestions illustrate the kinds of changes that IR professionals need to undergo in order to be effective and successful in the twenty-first century.

Develop a New Mindset

IR professionals in the twenty-first century will need a new mindset for approaching problems in their areas of responsibility. The IR professional needs to be able to define and demonstrate how information resources are integrated into the institutional mission. Just being able to ad-

minister or manage the library or the IT organization and its associated resources is no longer sufficient. Instead of accepting the institutional goals and listening to the loudest faculty committee, the new IR professional must be an active participant in the discussion and must help other institutional leaders understand the complexities of information resources, service delivery, the technology, and the information demands of the community. The new IR professional must also learn the issues and concerns of these other constituencies. These changes are really no different from those called for throughout our society as organizations reshape and reengineer themselves. The IR professional of the future needs to become more of a generalist, a more eclectic member of the university community, and a person who can span the boundaries of the various subunits on campus. The role of this new professional must transcend the traditional stovepipe structures and fiefdoms.

IR professionals need to shape the discussion about how to budget in direct support of the institutional mission. What is the mission? How does the role of information, or the role of technology, fit into what the institution is trying to accomplish, as well as fit into unique issues of campus culture? This redefinition of roles requires a level of participation that emanates from a very different mindset. It means accepting that the mission may require the cessation of traditional services that are no longer relevant. It means adopting value structures driven from outside the information resource units, rather than from within. The change means giving up exclusive control of these resources and more actively sharing control with other segments of the community. The critical mindset is that the information resource needs of the campus must be fully integrated into the institution's strategic directions and mission—after broad campus discussion.

The role of the IR professional cannot be solely about technology—or books, or software, or systems! It is about support of the comprehensive academic enterprise. Only when this new mindset is fully adopted and understood by the rest of the institutional leadership will IR professionals be welcomed to the table where the “real” deci-

sion-making of the institution occurs. Only then will IR professionals be perceived as partners in the academic process rather than as administrators of some specialized support unit.

Appreciate the Differences

Although it makes sense to have greater coordination and coherence between the IT organization and the library, one must understand that these two professions have grown from very different backgrounds and cultures. The underlying values and approaches that characterize these two groups are often in conflict, and instead of being a source of mutual growth and learning, these differences more often than not have created barriers and challenges to effective cooperation. The new IR professional must understand that the various professional cultures in “our professional field” have both legitimate and valid points of view and that these different perspectives need to be brought together. Professionals in one area must learn the “business” of professionals in the other area. Whether through concentrated study, internships, cross appointments, or joint committee work, efforts need to be made to value the differences, the strengths, and the perspectives that the other professional group brings to the table. New IR professionals should understand what other groups contribute, should value that contribution, and should not fall prey to stereotypes.

Perhaps the most critical and obvious starting point is when professionals in each field begin to accept the validity and integrity of the concerns of other, related professions. Only with this new level of cooperation will our institutions be able to cope with the transformational pressures facing them today.

Redefine and Eliminate Historical Boundaries

There is great value in bringing the varying skill sets of different IR con-

stituencies to bear on a common problem of the academy, but increasingly, the contributions of one's scholarly colleagues must be incorporated as well. Faculty must work with IR professionals in ways that have been neither invited nor sought in the past. The incorporation of an increased faculty perspective brings an in-depth knowledge of the discipline; an understanding of how scholars frame questions, seek information, and organize their research

methods; and an appreciation of how different cognitive styles relate to teaching and learning. These perspectives are needed in the discussions to define the information resources—their content and formats and media—that are to be provided on a campus.

These decisions can no longer be intelligently made solely by technologists and professional librarians. The control over the decision-making process must be broadly shared, and this transformation will require organizations to develop new decision-making mechanisms to modify previously ordained structures, just as it will compel IR professionals to enlarge their circle of colleagues.

Manage Expectations

One of the most difficult challenges facing IR professionals is the establishment of a baseline of services in support of the institutional mission. In IT divisions, libraries, and elsewhere, staff are often called on to provide everything that is requested by anybody who wants it. This demand-driven model can no longer be accommodated, much less sustained. Limits need to be defined in terms of the bundle of services included in tuition payments and faculty appointments. Resources cannot be effectively managed unless the limits are understood and a baseline of expectations has been clearly defined. These limits need to be both understood and accepted by the community because even though information may be growing exponentially, institutional resources to support this information are not. The administration and the faculty are probably more loath than those of us in the information resource fields to accept this reality. However, failure to have this campus discussion will seriously curtail any planned and orderly provision of services within a coherent structure, and reactive and inconsistent responses will be the order of the day.

In addition to the business and technical skills required, the information resource manager needs to develop skills in salesmanship to “sell” new strategies to student, faculty, and administrative constituencies. These significant changes represent a new primary job responsibility of becoming a manager of expectations.

Think Discontinuously

The primary attention of an IR professional in the future will necessarily be focused on the process of discontinuous change. What are the changes that destroy our ability to cope using our traditional practices? What are the activities that cross over traditional boundaries and, hence, are not getting appropriate attention? What are the major issues that lurk over the horizon? A longer-term, more anticipatory approach will be critically needed. Instead of merely reacting to events, the IR professional must anticipate issues and then present these issues to the campus community in order to frame the campus discussion and shape the new information and service environments available for students and faculty.

It is easy to postulate that people should “think discon-

tinuously.” It is much harder to actually do so. When one is an active part of an organization and caught up in the pressure of daily activities, it is difficult to see the currents of change. In a turbulent environment, a leader finds the time to contemplate what he or she is doing and why. The leader doesn't extrapolate from the past but instead tries to visualize different scenarios for the future, studies the environment, and applies data to support one of these scenarios. The leader who can think discontinuously anticipates the future and challenges the historical assumptions inhibiting the possible realization of desired outcomes. The quality of such predictions will be a function of how well such figures are grounded in a thorough understanding of the current milieu; how broadly they scan the external environment; how committed they are to constant self-improvement, lifelong learning, and personal growth; and how willing they are to explore the idea of abandoning historically cherished values and skills that have enabled them to adjust to the world around them.

Develop the Next Generation of Leadership

IR professionals in the twenty-first century must focus on professional development to an unprecedented degree. They must, as well, recognize that the demand for changing skill sets may not reflect traditional assumptions. It is the responsibility of each professional to analyze what skills are needed, not what skills are currently held. Enlightened self-interest is imperative: one's job might well disappear because of the level of change likely to be experienced. It is disconcerting to realize that one's current skill set may be of little use and, indeed, may be a liability. Pressures to acquire new skills exist at all levels throughout the organization. Specialized skills have been the source of security for many IR professionals who say to themselves: “I know how to perform a given function,” or “I know a given area better than anybody else.” Yet the demand for that area may be eliminated or, at the very least, changed at a rapid rate. Finally, IR leadership involves a curious paradox: the path to success has always been characterized by the development of specialized skills, but the path to leadership increasingly requires the skills of a generalist.

A critically important responsibility for both the institution and the IR professional is the continuing development of IR professionals. The information resource manager must ask certain questions to adequately staff the changing functions in the college or university. What are the processes needed to change, develop, or refine one's skill sets? How much of the budget in the information resource units should be committed to professional development to improve the abilities of institutional personnel to cope with these changes?

An additional responsibility accompanying the effort to transform and develop another generation of leaders is mentoring, a key obligation of leadership today. More important, mentoring in a different frame of reference is desperately needed to create a future cadre of transformational leaders. Senior-level IR professionals need to look



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forward and need to anticipate what skills and abilities will be demanded in the future, including the ability to think discontinuously, in order to give the younger generation an opportunity to identify and learn new skills and conceptual abilities for the twenty-first century.

Conclusion

The changing role of the IR professional requires more than just increasing one's sensitivity to others, more than improving one's set of management skills. It requires a broader orientation—a change in mindset. These concerns are not about turf but are about viewpoint, and that viewpoint must constantly refocus on a commitment to the mission of higher education and to the role that information, information services, and information technology can contribute to that crucial mission. Enlightened leadership on these issues is the responsibility of all information professionals. However, if IR professionals do not assume this role, presidents and provosts will—by default. The

needs of the campus will be better served if those individuals most knowledgeable about information issues initiate, lead, and facilitate these critical discussions. The provision of information resources—through a print, electronic, or technical infrastructure—combined with the power of digital technology must enhance, not define, our educational mission. The professional obligation of information resource professionals is nothing less than to actively participate in the shaping of the twenty-first-century institution of higher education.

Notes

1. Peter Lyman, "Is Academic Computing a Profession?" *Educom Review* 25 (spring 1990): 6–8.
2. Linda Fleit, *EDUTECH Report* 15, no. 3, p. 8.

Significant portions of this article were adapted from Brian L. Hawkins and Patricia Battin, "The Information Resources Professional," in Brian L. Hawkins and Patricia Battin, eds., *The Mirage of Continuity: Reconfiguring Academic Information Resources for the 21st Century* (Washington, D.C.: Council on Library and Information Resources and Association of American Universities, 1998).