Roles in the Research Process

ABSTRACT

Two groups—practitioners and faculty/researchers—top the list of key players in the research process, which also includes state and federal library agencies, associations, consultants, the business sector, and users. Key functions of these groups include generating ideas, numbers gathering, and producing research. Also important to the research process are the consumer or user of research, participation in research studies, funding, and dissemination of research results.

INTRODUCTION

The topic of roles in the research process requires first that two concepts be defined: research and roles. For the purpose of this paper, the term research is defined very broadly to encompass basic, applied, and action research including needs assessment and evaluation. This perspective is used in order to be as inclusive as possible for both researchers and practitioners. Although this would not be a universally accepted definition, this approach incorporates the idea of a continuum, with one end being the gathering of information for immediate decision making and the other end being the "big questions" or basic research.

The concept of roles, in this context, can be interpreted in two ways. First, people can look at roles as functions, which raises the question, "What are the functions necessary to the research process?" Second, one can examine the individuals, groups, or institutions that play a role in the research process. By combining these two
interpretations, the question addressed in this essay is, "Who are the players in the research process and how do they relate to the research roles or functions?"

THE RESEARCH PLAYERS

At the simplest level, it is easy to say that everyone has a role to play in the research process. This very general grouping, however, has been defined by speakers during the Allerton conference as containing two key groups: practitioners and faculty/researchers. The practitioner has been referred to in various ways, most often as library administrator, although the label "user-savvy" practitioner provides another insightful description. The other primary players are library and information science educators and researchers. In terms of productivity, when defined as publication, these two groups are the source for much of the study in library and information science.

Within these broad categories, however, other groups participate in the research process. State library agencies, the U.S. Department of Education Library Programs, and associations (state, regional, and national) certainly have a role to play in research. The list also would not be complete without adding consultants, who are often drawn from the practitioner and educator pools. Increasingly, the research work in the field is being done by consultants, although the work may not become part of the regular publication stream. Added to the list of players are an increasing number of research firms not necessarily based in the library and information science field. Although this is not necessarily a negative occurrence, it may have an effect on dissemination of research results since these researchers tend to work in different disciplines and publish outside the library literature.

The business sector is another group that participates in the research process. This work can be less visible to the field. It is the research and development (R&D) function of the companies, and the results are reflected in the products that companies develop. What is not clear is the effect or influence of research within the field on product development. For example, does the extensive body of work on use of the catalog influence the research on and the development of commercially available online catalogs?

A subset of the business sector includes publishing. In the dissemination of research results, publishers, editors, and editorial boards play a critical role.
Finally, when talking about participants in the research process, users (and nonusers) logically complete the list. Not all research can be unobtrusive, and relying solely on the “traces” of use or the observation technique has limits. To explain, for example, the “whys” of use or nonuse, willing participants are necessary.

What groups, then, have a potential role in the research process? Two groups—practitioners and faculty/researchers—top the list, which also includes state and federal library agencies, associations, consultants, the business sector, and users. If one examines the amount of research that is published or is conducted, the groups just described would be responsible for the majority of that work in a variety of settings.

FUNCTIONS IN THE RESEARCH PROCESS

Using as examples some of the players identified in the first section, what are some of the key functions that are evident in the research process? In this paper, several will be identified, including three major roles: generating ideas, numbers gathering, and producing research. Although discussed individually, these roles or functions are not mutually exclusive; a debate over which activity fits within which function seems unimportant here. It is more important to understand that in addition to crossover in the roles, one function is necessary for another to occur. Likewise, the roles coexist. All the roles need to be in place for an effective research community.

Generating Ideas

The first function in the research process is to generate ideas. This process can be the most creative, energizing, and entertaining part of the research effort. It sounds simplistic, but idea generation is a crucial step toward answering the “right questions.” What are the issues to be considered, and what are the new ways to ask the questions? In the workplace, this idea generation is reflected in questions such as, “Why does this happen?” or “What if we do this?” Faculty are bemused when a doctoral student says, “I can really only think of one thing to do for a dissertation.” The response is, “Read and think more, then come back!”

There is no limit on the number of questions that can be examined within information agencies and by researchers. Given this fact, priorities are being set—personally, within institutions, and by the field. One manifestation of this priority setting is a “research agenda.” Currently a national research agenda exists, developed under the auspices
of the U.S. Department of Education. Another example is the Association of College and Research Libraries (ACRL) research agenda. Credit for that product is given to three steps: thinking about ideas, articulating key questions, and setting priorities for researchers.

When considering the various players within this function, one can consider two aspects: the field (or practice) and the discipline of library and information studies. The practice of the discipline or the profession supplies ideas to the research process, as reflected in activities such as publishing, conference programming, and funding priorities. Likewise, the discipline of library and information studies is reflected in the profession. Sharing ideas is crucial to both. A necessary role for the practitioner is to articulate and prioritize the needs of the profession.

Library and information science educators also have a role to play in generating research ideas. Some of the questions will be in response to their professional activities, but others are a result of “knowing the literature.” It is a reasonable expectation that library faculty are responsible for keeping abreast of what is going on in the field, i.e., to see the broad spectrum. Separated from a particular type of information agency, faculty can look at the context for issues in practice and bring to the profession literature from outside the field. Researchers draw from psychology, public administration, adult education, sociology, and communication, to name a few. This broader perspective contributes to generating research ideas.

For faculty who carry out this function, a picture comes to mind from the movie The Wizard of Oz. When the Scarecrow gets his diploma, it is a “doctor of thinkology” degree. Faculty need more time to be doctors of thinkology, generating and discussing research ideas. More opportunities, such as the University of Illinois summer research retreat, are important for concentrating on the process of idea generation.

In addition to practitioners and faculty, other agencies play a role in this process. Certainly the U.S. Department of Education assumes an important role in sponsoring a national research agenda for the discipline and in setting priorities for federal research funding. Another player is the state library agency. One of its key roles is to identify, within a state, trends, issues, opportunities, and needs. Certainly none of the players noted in the previous section is exempt from the idea-generation experience.

**Numbers Gathering**

A second role in the research process is difficult to name precisely, but it is sometimes referred to as “numbers gathering” or “number crunching.” Some research methodologies and designs require collecting
and analyzing numbers, but the function referred to in this section is
the work being done to collect numbers without really having a specific
research question in mind. Probably one of the most extensive examples
is the effort of approximately 8,000 U.S. public libraries to annually
contribute data to a federal database, the Federal-State Cooperative
System (FSCS). Similar types of data collection exist for other types
of information agencies.

The issue with this regular "numbers gathering" is that the results
can be used in the research process. Other speakers at the Allerton
conference have urged listeners to make use of existing data sources.
When used in the research continuum described earlier, the numbers
help make day-to-day decisions while also being a source for basic
research. Researchers analyze these numbers in new ways and in different
combinations.

These kind of data aid in identifying anomalies or gaps that lead
to further research. For example, why is library circulation lower for
senior citizens than for the rest of the adult population? These numbers
also document problems, such as underutilized resources or decreasing
financial support. The numbers-gathering role is an important part
of the research process, since it leads to asking new questions, while
answering others. Existing data sources are extensive and can be tapped
for projects along the research continuum.

What players carry out the numbers-gathering role? In the case
of public libraries, state library agencies coordinate the annual data
collection, as well as collect data from other types of libraries and on
numerous topics. Local libraries regularly collect counts of library
circulation, reference transactions, and interlibrary loan traffic, along
with collection and budget figures. The commitment of the local library
to produce accurate and timely information is basic to the success of
these numbers-gathering efforts.

In evaluating library services, the source of information is at the
local level. For example, as library involvement in adult literacy is
studied, a vital question is, "How does the individual change as a result
of participation in the library's adult literacy program?" Since it is
the staff of the local literacy program who are close to learners, the
staff are the ones to assess changes. This information, in the aggregate,
is then passed up through the system—a bottom-up rather than a top-
down model of data gathering. Information comes from local agencies,
it is consolidated, and results are brought forward so that they are useful
for a broader group of people.

Professional associations can take on the numbers-gathering
function. An example of this is the Public Library Data Service, produced
for the Public Library Association by the University of Wisconsin-
Madison. Other examples are the salary surveys conducted by the
American Library Association under the guidance of Mary Jo Lynch.
Is there enough numbers gathering going on? It depends on a person's perspective. The local librarian may complain that too much is being asked for, whereas the historian feels that too little of the library's efforts are being documented for future study. Although one might bemoan the extent of numbers gathering currently going on, it may be better to lament the lack of use of such rich sources of information.

Producing Research

A third function in the research process is, most logically, to produce research—creating the research product. The definition of that function is fairly straightforward: a commitment to research and then carrying out the work. But the question of who is producing research is more complex. When people attempt to split practitioners and faculty into two "camps," this becomes dysfunctional for the field and the discipline. Basic research, applied research, and action research occur in both groups. When it comes to producing research, however, faculty efforts may have different purposes.

For educators, the role of producing research is manifested in four ways in the library and information science discipline. First, there is the faculty member's personal research agenda. This may distinguish this group from practitioners, since library staff are usually bound by the needs of the institution when conducting research. In contrast, faculty members designate their research interests, known as a "research stream." Undoubtedly, the availability of funding affects that research focus, but in reality faculty have a great deal of flexibility in determining their research agendas.

A second way in which library schools contribute to research production is through Ph.D. programs. An increasing number of students are completing Ph.D. degrees. Much of the discipline's basic research rests in Ph.D. dissertations (which, unfortunately, are not widely used).

Faculty also produce research via consulting. This aspect of faculty productivity is usually referred to as "service" in higher education. In this capacity, faculty, working within a specific institution or set of institutions, conduct applied and action research.

Finally, library schools produce research via formal research centers. The Library Research Center at the University of Illinois is the oldest in existence, maintaining its effort for over 30 years. Clarion's (Pennsylvania) center focuses on rural librarianship, whereas the University of Wisconsin-Madison's center for Library Evaluation and Development (LEAD) builds on its strengths in evaluation. These centers not only try to attract research work to the schools, but also can coordinate research being done by the faculty. The centers also become
a training ground for both practitioners and Ph.D. students through employment on research projects. The centers are a fourth way in which library education is responding to the need for research.

Libraries, and therefore the staff, also are research producers. This effort is not completely documented, except anecdotally, although some of the work results in publication. Given that library-based research has as one of its goals to aid in decision making, it is likely to be categorized as applied or action research. Evaluation and needs assessment studies typify these efforts and result in a large number of studies. For example, St. Louis Public Library at this conference reported completing over 50 such studies. If cooperative and multitype systems research efforts are added, it becomes evident that even within the public library community, the amount of research work being done is much larger than what is found in regular library publications.

Increased rigor in practitioner research is a continuing need. Another concern is that the local studies have limited dissemination. Naturally, the library studies tend to be "institutionally bound," focusing on unique characteristics of the setting. One of the challenges facing librarians who produce research is to place that research into a broader context, building on previous work in the area. Writers who extrapolate features applicable in a number of libraries will make the research product more useful when shared at conferences and prepared for publication. This helps avoid the exclusively "how we did good" articles.

State libraries have an opportunity to produce research through commissioned studies and "fast response" research. This approach is typified by the Colorado State Library through the work of Keith Lance. A useful image for this kind of research comes from Ron Dubberly, the director of the Atlanta-Fulton County Public Library. He refers to "ninja evaluation." The process is to zero in on a very specific question, get useful information quickly, process the information gathered, and then use the results. Colorado State Library conducts, among other things, "ninja research" as effectively reported in their "Fast Facts" publication. State libraries have the resources and the network to gather information in a timely fashion to respond to the needs of the state's library community. State library agencies also produce a number of regular reports, noted in the previous section, as well as special research reports conducted in-house or by contract.

When examining research productivity, associations contribute at all levels of the organization, including committees. For example, the Medical Library Association, via its research committee, conducted a continuing education needs assessment of its membership. The American Library Association also recently produced a children's output measures manual.
A final example of this role is the case of the private consultant or consulting firm. On behalf of libraries, associations, and so on, the consultant produces research reports on a broad range of topics, from automation to library cooperation. The reports generally are produced in small numbers and, as a result, have limited distribution. Although the studies are sometimes announced to the library community, only a few are shared via the library press.

Given the use of a continuum to define research in this paper, it is not surprising that many players contribute to the role of producing research. Each group has constraints that affect the nature and availability of the research being produced.

**Consumer of Research Results**

This essay concentrates on three principal roles in the research process: idea generation, numbers gathering, and producing research. Others can be added to the list, although they require less explanation. One of these is the role of consumer or user of research. Using research for decision making, clarifying, explaining, and justifying strengthens the ties between the theory and practice of library and information studies. The consumer or user functions as the feedback loop in the research process. As results are critically reviewed and used, the ensuing insights lead to revised questions, improved methods, and added areas for investigation.

Unfortunately, anecdotal evidence combined with citation studies show that a great deal of research is never used, let alone read. Given that the profession is based on information seeking and reading, this is a disturbing observation. As more graduate schools incorporate research methods in the curriculum and make more use of research in teaching, new professionals may become better consumers of research. When designing research projects, faculty as well as practitioners can draw from previous work. A lack of awareness leads to "reinventing the wheel." For example, from numerous catalog use studies, it is repeatedly found that education level affects catalog use. Given the consistency of that finding, is this a necessary feature for every study of catalog use? Another example can be drawn from library needs assessment. It is of no surprise that books for circulation ranks consistently among the top services offered by public libraries, yet this continues to be included in user surveys.

During a recent seminar, one participant recommended that library administrators require all memos to be documented with citations from the literature, especially research findings. One could ask, "Why should a literature-based field need this requirement?" Yet, this policy potentially could serve a useful function. Requiring references to the
literature to support assumptions and clarify issues could generate more use of the research being produced in the field, including internal documents, reports, and statistics. Consultants working with libraries to conduct community studies will find that the library has already collected extensive data. The need often is not for further data but to make sense of what is already available.

Ultimately for the discipline of library and information studies, the desire is for consumers to include people from other fields and disciplines. This truly completes the cyclical research process. This means that the work in this field not only draws on other disciplines, but contributes new perspectives and findings to those other fields.

**Participation in Research Studies**

Another function, and for researchers a very important function, is participation in research studies. Although identifying participation as a role in the research process may be stating the obvious, the success of several research designs is dependent upon that cooperation. The concept of "return rate" or "participation rate" permeates the research process.

The federal government recognizes the value of this role. On contracts that require gathering data from subjects, investigators are asked to calculate the "response burden." Basically, this is an estimate of the amount of time needed from each participant, multiplied by the number of people involved. This gives the burden (in terms of time) for the targeted population. Groups with high response burdens are less likely to agree to participate. As more library-based research is conducted, practitioners and users potentially will respond negatively to their response burdens. This makes agreement to participate a serious role in the research process.

Related to the role of participation is the idea of the library as laboratory. In this case, the institution is studied or becomes a testing ground for new services and techniques. Throughout the Allerton conference, references have been made to host libraries, test sites, and case studies, all of which relate to the library as laboratory. For example, at the University of Wisconsin-Madison, two recent studies involved the public library as laboratory—the Urban Library Council's financial practices study and a family literacy project. These types of studies are possible only because of full institutional cooperation.

Involvement in the research process is not a one-way street for information agencies. Often, insights into their own practices derive from contact with researchers, and research reports can serve as a focal point for staff review and discussion.
Funding

Although the phrase "money makes the world go round" may be too cynical, it is clear that funding is necessary for the work of research. Even when costs are incorporated into a library's regular budget, the resources need to be there in the first place. Release time for research, especially for tenure-track academic librarians, is another type of support needed to enhance research productivity. To conduct multi-institutional studies or experiments requires more than local budgets can provide and usually requires outside grants and contracts.

Although the concept of funding as a role in the research process requires little definition, funding (current and potential) comes from a wide range of sources. Libraries provide research dollars for single-institution studies. These projects may require the use of consultants. Also, the library's ability to garner grants for new services and projects allows an opportunity to fund evaluation research as a component of these efforts. Grant proposal budgets can include dollars for evaluation of the project. Libraries may be the only eligible applicants for some grant programs. By incorporating a research-based evaluation component, libraries become a source of funding for evaluation research.

Historically, the U.S. Department of Education has been a source for basic library research and development funding. In the past ten years, this funding allowed for about three to five projects annually. The dollars have always been limited; during the 1992 funding cycle, no funds were available for field-initiated research projects. Other federal sources outside Library Programs have funded research, especially in the information science arena.

Other examples of funding include OCLC grants for basic research, and the Council on Library Resources (CLR) is a source for major studies as well as for practitioner/faculty collaborative projects. The collaborative CLR grants provide seed money for institution-based studies.

Associations have also increased their support for research. For example, the American Library Association annually gives the Baber Research Award, the Special Libraries Association provides a research award, and the Association for Library and Information Science Education awards a grant for research related to education in the discipline.

Although a wide range of sources may be available, the process is competitive. Private sources via foundations continue to be important for the research process. Ongoing, consistent funding levels from all sources are essential to carrying the field and discipline forward.
Dissemination

Dissemination of research is the companion role to that of consumer of research. Before research can be used, it must be available in a timely fashion and in a form that is usable by a broad range of consumers. The analogy may be that of the tree that falls but no one hears it. If research is done but not disseminated, is it research, is it useful, and is it part of the process? Given the number of players in the research effort, the amount of work that is published in the field's journals or in monograph form represents just a percentage of the total effort. This situation is compounded when potential consumers of the research have access to only a limited number of journals or have a preference for professional publications over primarily research journals.

The ability to report research results in professional journals is countered by the requirements for faculty tenure and promotion. Writing for research and refereed journals is valued more highly in higher education than those articles in professional publications.

To aid in dissemination, information agencies can identify a person in the organization who is willing to serve as research "gatekeeper." As studies are identified and reviewed by the gatekeeper, pertinent items can be summarized for staff or routed for further study. This model is not unknown to the field, as it parallels specialized programs offered to patrons such as current awareness services or selective dissemination of information. Some published sources can assist in this effort, such as the Public Library Watch, published by the University of Illinois Library Research Center, and research notes in some journals. A complement to this effort is to assign staff attending conferences to cover research programs.

Another facet of dissemination is the publication of evaluation results from local projects. As noted earlier in this essay, too little of the internal research effort is shared outside the institution. This is also reflected in the limited availability of consultants' reports. When seeking outside funds to support studies, libraries can consider requesting enough funding to allow for multiple copies of the final report. This helps meet the demand for research reports announced in the library press or mentioned at conference programs.

Library educators have an additional contribution to make to the dissemination role besides their publication efforts. Research publications and results incorporated in reading lists and classroom work introduce the research in the field to students. Integrating use of research in the education of new professionals may increase the likelihood that this will occur in the workplace. Modeling use of research for students encourages emulation of that behavior throughout their careers.
Continuing education institutes and workshops provide another opportunity to incorporate research into teaching and to apply it to practice. This translates into talking about research in such a way that people can see its usefulness in their own situation.

Associations contribute to the dissemination role through conference offerings and publications. Greater attention can be given to including articles that synthesize a body of research in association publications. This can serve as a useful starting place for interested readers.

Other Roles

Beyond those introduced in this essay, additional roles can be named. Among these is an advocacy for research role, that is, encouraging, recognizing, and rewarding effective research. On the other side, the research process needs someone to carry on the role of skeptic, challenging assumptions used and helping to ensure rigor in the research process.

Others take on the role of advisor to research projects, typically through membership on advisory or expert panels. This has the benefit of blending the expertise of researchers, practitioners, users, and others.

Training and educating current and future researchers is a role necessary to increase research productivity and to improve the quality of research. If the field is expected to conduct research, the skills need to be present. As noted earlier, graduate schools offer (and some require) research methods courses. Continuing education workshops in the research process and techniques also are used to prepare researchers or enhance skills.

CONCLUSION

This essay attempts to define the research process in terms of the functions or roles that exist in order for research to flourish. In addition, different players contribute to each of these roles.

The perspective presented here is a collaborative one. Both the practice and the discipline of library and information science have a place in this collaborative model of the research process. To talk about them and us, researchers versus practitioners, pure versus applied research, or big questions and little problems is detrimental to moving the field and discipline forward. Besides avoiding these dichotomies,
each participant in the research process needs to recognize the value of contributions made along the research continuum described at the start of this essay.

The variety of research approaches used, the diversity of questions and problems posed, and the number of players create a rich source of current and future research. In the final analysis, however, perhaps one more feature should be added to the research process: striving for excellence in research. This corresponds to excellence in practice and, ultimately, to making a difference in the lives of the people being served by information agencies.