

# RESEARCH MANAGEMENT REVIEW

The Journal of the  
National Council of University Research Administrators

Editor

Mary Ellen Sheridan  
Past President

Editorial Advisory Board

Dermis W. Barnes	Milton Goldberg	Edward L. MacCordy
C. Frederick Bentley II	Stephen L. Hansen	Anthony R. Potami
William B. Cole, Jr.	Margery E. Hoppin	Eugene K. Schuler
George H. Dummer	John Lordan	Steven Smartt
Sondra M. Ferstl	Robert A. Lucas	Frank R. Tepe, Jr.
Earl J. Freise	Don I. Phillips	Nan S. Wells

Concerned with the broad range of issues affecting the administration of research, Research Management Review provides a forum for the dissemination of knowledge about the study and practice of the profession of research administration, Research Management Review is published semiannually by the National Council of University Research Administrators at One DuPont Circle, N.W., Suite 220, Washington, D.C. 20036.

NCURA's annual membership dues pays for the subscription to Research Management Review.

One-year subscription rate is \$20. Orders for single copies must be accompanied with prepayment of \$10.

Subscription requests and changes of address should be sent to Research Management Review, One DuPont Circle, N.W., Suite 220, Washington, DC. 20036. Printed in the U.S.A. © National Council of University Research Administrators (NCURA), 1992.

NCURA Officers

Ardis M. Savory, President	Henry O. Hooper, Vice President
Regina H. White, Secretary	Donald W. Allen, Treasurer



# RESEARCH MANAGEMENT REVIEW

The Journal of the  
National Council of University Research Administrators

Editor's Preface .....	v
From Adhocracy to Order: Organizational Design for Higher Education Research and Service by Steven W. Hays .....	1
Evaluating the Pre-award Research Administration Office by Sharon K. Davis .....	18
A Model for Developing a Research Administration Handbook that Faculty Will Use by Deborah K. Vetter and Amy R. Staley .....	29
University Responsibility for Misconduct in Research by Nicholas H. Steneck .....	41
Instructions to Authors .....	47

## Editor's Preface

**T**ransitions are a fact of life in the research community. Students and senior administrators generally come and go in about five-year cycles, although presidents seem to be having a shorter tenure than the average undergraduate these days. Keeping the budget balanced while preserving excellence in undergraduate programs and research development can fray the seams of many a board-administration-faculty relationship, with healthy measures of student discontent over higher tuition thrown in. Some states are carving deeply into higher education to preserve social services and health care programs. Base budget reductions and mid-year rescissions are driving tough choices on many campuses. Even well-endowed private institutions such as Columbia and Yale are in the news with severe budget constraints.

What does this mean for research administration? Perhaps that continuity for responsible long-range planning for research, especially facilities, renovation, equipment, and prudent allocation of diminishing resources, may hinge on innovative and assertive research administrators in partnership with faculty and other administrators. Also, that public confidence in higher education is critical. The conduct of research and its support operations should expect detailed public scrutiny.

Streamlined and effective services, efficient administrative structures, and maintaining public trust and integrity in research continue as themes for RMR.

Broadly informed research administrators should be familiar with the management of organized research units (ORUs). Steven Hays, Professor of Government and International Studies at the University of South Carolina, and a Faculty Associate at USC's Institute of Public Affairs, suggests that a matrix structure with a minimum number of umbrella units offers the best potential for success. Professor Hays describes the advantages and disadvantages of creating umbrella institutes. He points out that fewer than 30% of ORUs report any faculty interaction with more than one department, which may dispel the myth that ORUs stimulate interdisciplinary research. He also calls into question a common assertion that "name recognition" is a powerful justification for creating an ORU. His paper should be shared with faculty research committees and interdisciplinary research development groups.

Evaluating research administration offices is an important topic. Pre-award offices may suffer from a simplistic judgment of their effectiveness

based on the “success” statistics of applications and awards. Sharon Davis has done a good job in organizing the basic steps of evaluation, giving some valuable pointers on how to begin an evaluation process. In times of budgetary stringency, measuring the effectiveness of administrative offices and putting their resource requirements into institutional priorities could have constructive consequences.

Deborah Vetter and Amy Staley apply the TQM principle of “know your customer” to a problem for most academic support offices: how to communicate important information that faculty will read and use. Many offices have reinvented the handbook wheel; as a case study, this paper outlines in a well-written and organized manner, the steps for planning, designing, and producing a handbook for researchers. Involving the faculty in the design and contents is sound advice; larger, decentralized institutions might include departmental or college administrators and fiscal officers. The bibliography and suggested reading list offers further assistance.

At the November NCURA National Meeting, Professor Nicholas H. Steneck, Director of the Historical Center for the Health Sciences, University of Michigan, spoke about institutional obligations to deal effectively and responsibly with allegations of misconduct in research. His comments took the form of questions about institutional conduct and statements of how institutions demonstrate accountable and trustworthy behavior. Dr. Steneck is also the current Chair of the Advisory Committee to the Office of Scientific Integrity Review, Department of Health and Human Services.

This issue brings another transition. Research Management Review began publication with a Spring, 1987 issue. The decision to launch an NCURA journal followed considerable deliberation by past presidents, officers, and executive committees. While I have had the pleasure and honor of being its first editor, other key individuals provided wise advice, support, and resources. Natalie Kirkman and Kathy Larmett, the stalwarts of NCURA’s Washington office, make sure the administrative aspects and communications with the printer are in good order. At The Ohio State University, Dr. Thomas L. Sweeney, Mrs. Nancy Ingold, and Cathy Garnett provided resources, practical administrative support, and tolerated the time editorial responsibilities took from other university business. Expert editorial assistance came from Mrs. Melanie Oyster. During the last four years, over forty members of the Editorial Advisory Board have been active participants and sage counselors. They brought impeccable standards to the review process; the fine reputation the journal has developed and high caliber of published manuscripts is chiefly and directly the result of their wisdom and interest. My sincere thanks to these individuals.

It is particularly satisfying to pass the editor's "blue pencil" to Earl Freise. As President of NCURA in 1985, Earl brought the journal to a "go/no-go" decision. RMR will prosper and improve under his leadership.

Mary Ellen Sheridan  
Editor  
February, 1992

# From Adhocracy to Order: Organizational Design for Higher Education Research and Service

Steven W. Hays

Abstract. This article provides a critique of the traditional ways in which organized research units are configured in the academic setting. Relying heavily on the organizational design literature, the author argues for a simplified ORU structure that is sensitive to the realities and ambiguities of the university environment. In effect, the author maintains that a matrix structure would allow universities to consolidate their research and service activities without sacrificing disciplinary and departmental concerns.

Educational administration is not generally regarded as an innovative nor especially dynamic enterprise. With only minor variations from the norm, university faculties are organized into departments which correspond to disciplines, and which in turn are aggregated into schools or colleges.<sup>1</sup> The incentive-reward system is built on the twin pillars of tenure and peer evaluation and utilizes criteria that, across all disciplines, emphasize research and publication over other forms of faculty output. Perhaps in no other area of human endeavor can be found such a high level of uniformity among organizations that otherwise display enormous diversity in size, quality, and mission.<sup>2</sup>

Within a field best known for its conformity, organized research units (ORUs) represent a profound anomaly. Although virtually every university in the United States contains numerous ORUs, they seem to share only one consistent trait -- uniqueness. Unlike their host organizations, ORUs follow no accepted model of structural design. Their design characteristics might be referred to as "complicated" and "erratic," although neither of these terms adequately captures the diversity that exists among such units. Even when they are located within the same institution,

---

Steven W Hays is a Professor *in* the Department of Government and International Studies *and* a Faculty Associate *in* the Institute of Public Affairs at the University of South Carolina, Columbia, SC 29208.

ORUs seldom display much congruency in organization, reporting relationships, personnel procedures, or evaluative standards.

The extreme heterogeneity that exists among ORUs has caused considerable uneasiness among academic administrators for several decades. Of the many quandaries that ORUs present, the most obdurate is that of control. Stated simply, ORUs are difficult to get a handle on administratively. Their diverse missions, unsystematic and atypical structures, and (often) tenuous ties to disciplines and departments give them an enigmatic quality that often inhibits effective oversight. Since they “don’t fit very well”<sup>3</sup> into the classic university structure, uncertainty clouds such fundamental issues as reporting relationships, institutional location, funding levels, performance standards, and methods of evaluating and rewarding faculty.<sup>4</sup>

The underlying premise of this paper is that there must be a better, more rational means of organizing the research and service functions within universities. As will be noted in the next section, there is considerable circumstantial evidence which suggests that ORUs have not enjoyed as much success as might be assumed from data concerning their abundance on college campuses throughout the nation. This, coupled with the managerial headaches that ORUs visit upon academic administrators, is sufficient reason to search for alternatives to the ad hoc organizational arrangements that currently predominate.

To that end, the primary objective of the paper is to identify a structural configuration that minimizes the worst shortcomings of ORUs without sacrificing the many benefits that they are intended to offer their host institutions. Because it advocates the consideration of a model format, the content is undeniably polemic in tone. The intent, however, is less to convince than to promote discussion by unveiling design options that, until now, have not received significant attention within the relevant literature.

## THE PROMISE AND THE PROBLEMS

ORUs first appeared on university campuses during the 19th century as indirect outgrowths of America’s fondness for pragmatic, problem-oriented education. Through the establishment of land-grant colleges, the Merrill Act of 1862 set a critical precedent by giving statutory expression to the belief that universities ought to be “responsive to the needs of a practical, growing people.”<sup>5</sup> By the 1950s the so-called “Wisconsin Idea” had become enshrined as a fundamental component of higher education thought and practice. According to this notion, universities play an essential role in improving society by making their resources readily avail-

able to the broader community.<sup>6</sup> This tradition of public service and applied research has been characterized by European educators as “the great American contribution to higher education.”<sup>7</sup>

One of the chief legacies of this past is the willingness (or perhaps more appropriately, the eagerness) of American universities to create problem- and client-centered units to perform their boundary-spanning functions. The most recent edition of the Research Centers Directory lists approximately 10,300 ORUs, the bulk of which are affiliated with colleges and universities. Large institutions contain an average of about 60 ORUs each, although some campuses house more than 200.<sup>8</sup>

#### The Case for OR Us

No unusual powers of perception are needed to understand the popularity that ORUs enjoy. As notoriously risk-averse and conservative institutions, universities have a continuing need for a greater adaptive capability than that provided within the traditional departmental structure. ORUs are free of the traditions and orthodoxies that often restrain innovation within conventional disciplinary departments.” In an environment where relatively minor decisions, such as winning approval for new course offerings, often involve lengthy negotiations and internecine conflict, ORUs offer a seductively expedient way to get things accomplished.

Compared to academic departments, ORUs are easy to establish and to reorganize. More often than not they assume the personality of their directors, thereby permitting major alterations in focus and mission through relatively minor personnel changes. Relatedly, they generally function in a much more hierarchical fashion than disciplinary departments. As a consequence, they are (theoretically, at least) able to respond much more rapidly to demands and opportunities.

In addition to these purported advantages, two arguments inevitably surface as the bottom-line justification for ORUs: their perceived ability to engender interdisciplinary collaboration and their proficiency at providing faculty with access to research resources. The first has long been regarded as their *raison d’être*.<sup>9</sup> Since they exist outside of the normal departmental framework and address research questions that often straddle several disciplines, ORUs serve as a linking mechanism. They provide a neutral setting in which the research interests of diverse faculty can be fruitfully combined in a common purpose. Their ability to recruit a multidisciplinary research team is, in turn, largely attributable to their superior resource base. By emphasizing funded research, and by serving as a resource depository, ORUs are often able to provide faculty with equipment, infrastructure, and staff support that their departments lack.

### *Unfulfilled Promises*

Despite the fact that such benefits have traditionally been taken as a matter of faith among ORU proponents, a growing body of evidence casts a broad shadow over their performance to date. The darkest clouds hover over the ORU's heralded ability to encourage interdisciplinary cooperation. Surveys have proven, for example, that a large majority of ORUs confine their activities to a narrow range of academic departments.<sup>10</sup> In one of the most widely referenced surveys, less than 30 percent of the ORUs reported any faculty interaction with more than one department.<sup>9</sup> Research programs that included contributions from three or more departments were virtually nonexistent, and almost all of the reported collaboration occurred within engineering-based units.

Another sign that ORUs are not living up to their institutional potential can be found in research examining the possible users of ORU services. Universities are generally given low marks on the contribution that they make in helping government solve practical problems.<sup>11,12</sup> One of the most frequently cited complaints among public agency officials and other "outsiders" is that they have trouble identifying and accessing the university talent pool.<sup>13,14</sup>

The difficulties that ORU clients experience hint at a deeper dilemma concerning the reputation and visibility of ORUs generally. A vast majority of ORUs exist in such anonymity that even resident faculty are often unaware of their presence.<sup>15</sup> Given this situation, it isn't surprising that only a handful of ORUs have any name recognition nationally, while most lack sufficient prominence to enter the consciousness of relevant communities within their own states.

In the long run, however, ORUs' inability to effect cooperation across disciplines and their lack of visibility are less disturbing than their more generalized failure to harness the intellectual potential of university faculty. For the most part, university outreach and organized research activities are carried out "by peripheral units with only limited involvement of the core faculty."<sup>4</sup> Due to the rarity of interdisciplinary projects, faculty in departments that are not affiliated with ORUs seldom have any opportunity to get involved. And, even when the ORU is cozily allied with a single academic unit, enticing more than a few faculty to participate often proves to be agonizingly difficult.<sup>16,17,2</sup>

### The Problems

Many of the underlying weaknesses of ORUs can be traced to the way in which they are created within their institutional settings. With very few exceptions, the birth of research and service units is, "as of babies, more a

natural than a rational process."<sup>10</sup> Terms that are frequently used to characterize the ORU birthing procedure include "opportunistic," "expedient," "exploitive," and "ad hoc."

These are not necessarily pejorative judgments, in that ORUs have traditionally provided faculty and administrators with an effective means of responding to a wide array of demands and opportunities. When individual faculty members have pushed for their creation, for example, ORUs are usually intended to promote a particular researcher's agenda, to exploit entrepreneurial talent, or to assist in the acquisition of grant and contract money. Academic administrators, likewise, display a similar range of utilitarian motives, including institutional development (such as the recruitment or retention of prominent faculty), strengthened graduate education and research, and the creation of distinctive areas of specialization.

The critical factor is that the growth of ORUs is rarely if ever guided by a systematic plan. Instead, establishing parallel structures to the core university offers administrators a convenient way of introducing change without having to confront (at least directly) the all-powerful academic department. Thus, ORUs are manufactured for both good and bad reasons, with both clear and ambiguous missions within the university structure.

In addition to contributing to their proliferation, the incremental means by which ORUs are spawned induce chaotic variations in their management and operation. Almost every university self-study that has been conducted on the subject concludes that, in general, organized research and service units are not well integrated into the institutional governance structure.<sup>18,19</sup> Decisions concerning funding levels, reporting relationships, and organizational location often seem to be matters of hunch, convenience, or happenstance. Many ORUs function as separate "fiefdoms," subject only to minimal outside supervision and control.<sup>20</sup> Others are creatures of academic departments, often serving merely as collections of resources to be mined during lean times.

The haphazard process by which ORUs are founded and operated contributes to a number of maladies that can potentially inhibit their performance. According to some, the basic difficulty is that ORUs have contributed to the domination of universities "by their professors rather than by their purposes."<sup>10</sup> That is, faculty use such units to further their personal and professional agendas with little or no regard for institutional missions and objectives. Related inadequacies stem from the "marginality" that typifies many ORUs.<sup>3</sup> The best known taxonomy includes three categories of ORUs: standard, adaptive, and shadow.<sup>15</sup> Of these, only standard institutes - with full-time staffs, articulated missions, and reliable budgets - have any goal continuity and resource stability. These organi-

zations comprise a fairly small percentage of the total ORU census. The remaining units truly exist on the margins of academe.

Many operate only as shadow institutes, or units that have “no staff, no space, no budget, and no visible accomplishments.”<sup>15</sup> Some of these are merely “instruments of faculty fantasy,” while others hover in a semipermanent state of limbo, waiting to be shaken into consciousness by the scent of a particularly alluring grant opportunity. At a slightly higher level of formality are the adaptive institutes, which consist of a central managerial hierarchy and perhaps a small nucleus of professional staff. In contrast to the shadow institutes, adaptive units maintain more or less continuous operations, although they regularly redefine their goals and shuffle their staffs in response to pressures and opportunities. Neither shadow nor adaptive institutes possess sufficient infrastructures to lure faculty into an interdisciplinary setting.

As if these factors are not enough to discourage faculty participation, the ultimate impediment lies in the university incentive and reward system. Regardless of their size and stature, ORUs find their efforts to enlist faculty support and involvement are frustrated by the rigidity and insularity of departmental evaluation criteria. Because such a poor job has been done of integrating organized research and service efforts into the university’s core functions, faculty efforts on behalf of ORUs are frequently ignored by academic departments in tenure, promotion, and salary decisions.<sup>4,17</sup> This problem is so pronounced in some settings that junior faculty are cautioned against ORU participation because of the tendency among some of their colleagues to regard such activity unfavorably.<sup>21</sup>

Nonfaculty professional employees within research institutes, meanwhile, are similarly victimized by university personnel practices. They are almost always precluded from earning departmental tenure and faculty rank, a situation that is seriously compounded by the failure of universities to provide an alternative career ladder. Thus, both of the employee groups that staff ORUs are treated as second-class citizens within the university.<sup>22</sup> Not surprisingly, survey after survey has confirmed that “inadequate formal reward systems” are the most intractable problem confronting ORUs nationwide.<sup>23</sup>

In summary, ORUs on most campuses suffer from several chronic ailments that inhibit their performance. At the heart of almost every sickness is the adhocism that typifies the organization and management of ORUs. The failure of university administrations to get a proper handle on their organized research and service units, to rationalize and regularize their operations, prevents ORUs from being effectively integrated into the university core.

## CONSOLIDATION AND ASSIMILATION

In their landmark study, *Beyond Academic Departments*, Ikenberry and Friedman provide six interrelated recommendations to enhance the institutional contributions of ORUs.<sup>15</sup> Of these, the linchpin is one concerning the need to structurally integrate ORUs with other campus components. Once this obstacle has been removed, then the road to ORU reform is open. And, as Ikenberry and Friedman correctly observe, “the structural aspect is perhaps most easily resolved.”<sup>15</sup>

### Making a Choice between Paradigms

Inevitably, the essential question encountered in making a choice among alternative structural configurations boils down to a reconsideration of the most enduring debate within management thought - that of selecting between a centralized or decentralized hierarchy. On the basis of characteristics that were alluded to earlier, ORUs on many campuses undeniably exhibit structural arrangements that are generously characterized as decentralized. As a legacy of their unsystematic origins, institutes tend to be isolated and fragmented. Since they must be responsive to external constituencies, who usually provide much of their funding, the prevailing attitude on many campuses is that institutes are somehow autonomous. This translates into a jumble of inconsistent reporting and crossed lines of budgetary authority.

When framed in the language of the centralization/decentralization debate, the prevailing state of administrative anarchy has been justified primarily on the grounds of flexibility. Highly decentralized units enable universities to tailor their internal structures to external opportunities. Responsiveness to the particular needs of clients and funding agencies can thus be achieved. Moreover, decentralization is perceived as being consistent with the highly professionalized character of university faculty.<sup>24</sup> This also makes it easier to involve graduate students in ORU activities, thereby reinforcing the teaching and research missions of the institution.<sup>25</sup>

If these advantages actually accrue to universities using a decentralized format, then there is probably no reason for them to consider adopting an alternative arrangement. Yet, as this paper has repeatedly noted, most of the problems that plague ORUs are in one way or another attributable to decentralization. This fact has long been recognized in the relevant literature, as reflected in numerous calls for greater centralization of authority over ORUs, as well as increased consolidation of organizational structures. Dingson, for example, reports “overwhelming support in favor of centralized programs” among 377 research institutions surveyed.<sup>26</sup> Similar

findings were reported by Cravens<sup>27</sup> and Cunningham<sup>28</sup> in surveys of research administrators. With remarkable consistency, researchers have concluded that both academic administrators and ORU directors support increased centralization of institute structures.

Other trends in the research point to the advantages that centralization and consolidation can potentially provide. Sommers,<sup>23</sup> for instance, establishes a correlation between the level of financial support provided to ORUs and their reporting relationships. Those that report to the central administration are more generously funded than are ORUs located in departments and schools. A related conclusion is drawn by Crosson, who asserts that a university's priorities are directly reflected in its internal administrative structure. Where organized research and public service are highly valued, the organizational structure tends to be more centralized.<sup>16,25</sup> Bimbaum, meanwhile, found that "large and stable" research programs perform better than do small and unstable ones.<sup>29</sup>

Another theme that runs through the research is that centralization can give ORUs an edge with certain external groups. Funding agencies are reportedly more favorably disposed toward institutes that are stable, visible, and part of a coherent administrative hierarchy.<sup>9</sup> Potential clients, similarly, support the use of centralized "nerve centers" (or "linkage entities") within universities to serve as focal points for inquiries and service delivery.<sup>13</sup>

The weight of evidence in support of a more centralized administrative style hints at the underlying arguments that are traditionally made in defense of hierarchical structures. At the most basic level, centralization promotes coordination and control. Within a centralized hierarchy, the formulation and implementation of a systematic set of operating procedures can be more readily accomplished. Clear and consistent policies can thus be designed to aid the organization in a variety of management areas. It becomes easier (but by no means "easy") to design and enforce evaluation criteria, to devise standards governing relationships with clients and grant agencies, and to develop reasonable personnel and allocational guidelines. From the perspective of external groups, centralization can also be seen as a sign of the institution's commitment to the activities performed by bureaus and institutes. This, in turn, could augment the visibility of such efforts and ease the burdens of clients whose interactions with the university overlap numerous disciplines or ORUs.

Given this impressive list of potential advantages, the question that naturally arises is, "Why hasn't centralization become the dominant means of ordering and managing organized research?" Inertia, coupled with the power of academic departments, provides one partial answer. Departments

give up their prerogatives most reluctantly, even when the powers and resources in dispute are not intrinsically valued by the affected faculty. A waggish comment that is often repeated in this context is “society has its problems and universities have their departments.”“\*

Possibly contributing to this phenomenon is the misperception that a plethora of disjointed, marginal, and unstable institutes doesn't really cost too much. For a variety of reasons, this is a foolish position. In addition to the resources actually consumed (space, equipment, faculty time, and budgets), shadow institutes can potentially involve high opportunity costs. Merely by existing, they can preclude other institutes with similar or overlapping interests from pursuing relevant projects. This problem is especially acute when an inactive yet turf-conscious ORU is involved.

A final explanation for the reluctance of many universities to adopt a more centralized ORU structure may rest in certain tendencies of the educational administration literature. Much of that literature tends to assume that centralization automatically implies that a single mega-office should have operational control over all campus ORUs.<sup>25,26</sup> To many academics, such a move would undoubtedly seem quite Draconian.

Obviously, any movement in the direction of centralization involves trade-offs. Highly centralized operations have great trouble maintaining any level of spontaneity and flexibility, essential virtues that are central to the institutional role of ORUs. Moreover, they have a tendency to become increasingly isolated from faculty and departments, thereby losing touch with the disciplinary expertise that is required to perform their line functions<sup>2</sup> This dilemma affects the director of the unit most profoundly, in that few individuals possess the requisite breadth of disciplinary grounding to deal intelligently with the vast array of substantive issues that are supervised by the central office. The usual response is simply to “hire the expertise,” a process that results in unpopular bureaucratic growth.

Somewhat paradoxically, then, it does not appear that either of the major organizational paradigms provides a solution to the ORU conundrum. Excessive decentralization is the source of many evils, yet centralization threatens to exacerbate some of the problems by robbing ORUs of their most critical assets. Not surprisingly, a more reasonable and workable solution to the problem probably lies somewhere between the two extremes.

#### *The Umbrella Organization*

The fundamental dilemma facing academic administrators is to devise an organizational structure that imposes a measure of control over ORUs without unduly sacrificing their flexibility or destroying their ties to faculty.

Managers and organizational theorists have pursued this quest for decades. Although the results have been uneven, a number of guideposts have been left along the way. Of the various structural formats that are in common usage, the one that comes closest to meeting the needs that we have described is a version of the *program* or product style of departmentation. The distinguishing characteristic of this approach is that departments are constructed around each of an organization's major service areas, programs, or products. Operational control is decentralized in the various programmatic units, yet centralized authority is maintained over many of the staff functions. The product form of departmentation is widely used in industry and government because it fosters decentralized decision-making within a context of hierarchically imposed guidelines and controls.<sup>30</sup>

For reasons that will become obvious in a moment, the proposed organizational structure is termed *umbrella*. When applied to ORUs in an academic setting, umbrella organizations would look something like this: Bureaus, centers, institutes, and laboratories that share similar missions would be consolidated into a more manageable number of standard institutes (using the Ikenberry and Friedman taxonomy). These new alliances of ORUs would, for the most part, exist outside the department and college hierarchy. Instead of reporting to chairpersons and deans, all umbrella institute directors would be supervised by a central administrative office. The chief responsibility of this supervising authority would be to standardize various control procedures and to monitor performance, not to dictate operational decisions to the umbrella ORUs. Institute directors, meanwhile, would retain a significant degree of autonomy over internal resource allocation and selection of projects.

**Consolidation.** To counteract the problems of scale and marginality, the hodgepodge of on-campus ORUs must be consolidated into a limited number of umbrella institutes. This would necessitate a thorough analysis of all existing ORUs, with special attention to their sources and levels of funding, proclaimed missions and objectives, and recent accomplishments.

Candidates for consolidation (or perhaps even abolition) would be identified on the basis of such factors as relative inactivity, percentage of hard money support, clarity of mission, and overlap with other institutes. Conversely, preference would be given to institutes that have solid records of accomplishments (especially interdisciplinary) and funded research. The underlying intent of this evaluation would be to absorb all or most shadow and adaptive institutes into larger and more stable operations.

**Classification.** Once the decision has been made to consolidate, campuses must contend with the thorny problems associated with the classification

and assignment of institutes. Which ORUs will house the shadow and adaptive units, and how broad or narrow will their missions be? Should successful standard institutes be collapsed into larger structures, and if so, which ones? Because such determinations are inherently contentious and political, no pat answers or universal models can be applied. Thus, each campus must work out its classification scheme within its own unique set of structural, budgetary, and political realities.

With this caveat in mind, a few general guidelines are discernible. One logical classification strategy is to establish umbrella ORUs that roughly parallel the internal university structure, with perhaps one major institute focusing on each college's broad field or specialty. Any such plan would obviously need to allow for certain exceptions, such as when two or more powerful ORUs are already present within a college or related structure.

A similar but slightly more complex approach to classification can be found in the distinction between university-centered and client-centered ORUs. University-centered institutes are those that arise within departments and disciplines in response to the relatively narrow research interests of specific groups of faculty. Client-centered ORUs, in contrast, focus on the external groups who provide the bulk of their funding or who constitute their primary service population. Numerous researchers have observed that the largest and most stable ORUs tend to be those that are client-centered. Common examples are centers focusing on urban affairs, environmental issues, business practices, health systems, and public policy. Because these problem areas almost always transcend any single disciplinary specialty, client-centered ORUs are usually campus-wide and thus are excellent soil for the germination of umbrella institutes.

**Reporting Relationships.** If pursued aggressively, consolidation should result in a dramatic reduction in the absolute number of campus ORUs. Depending upon a variety of circumstances, each university could potentially pare its list down to as few as 8 to 12 umbrella institutes. Whatever the exact number, the reduction in ORU fragmentation will diminish the university's administrative burden by concentrating its attention and permitting an easier transition to "unity of command." The primary focus of the central authority (Vice President for Research and Service, Office of Sponsored Research, or other such designation) would be to serve as the architect for a framework of uniform research and management policies.

Ideally, the policy-making authority of the central office would be exercised through a board or council composed of the various umbrella institute directors. Functioning much like a Deans' Council, this group would take primary responsibility for hammering out agreements and policy statements. The chief administrator's role in this context would be to

monitor and enforce the policies that are adopted, to orchestrate agreement (Beasley<sup>31</sup> refers to this role as “mediator-expediter”), and to serve as the primary ORU evaluator. Again using the classic product organization as a guide, the central authority’s role would be more coordinational than directional. Umbrella directors would be given wide latitude over the internal operations of their units, although they would be required to follow whichever uniform guidelines are decided upon centrally.\*\*

Management Practices within the Umbrella. Perhaps the most appealing trait of the umbrella institute is the flexibility that it permits within a structured framework. An excellent way of visualizing this quality is to think of the umbrella as a “holding company” or confederation.<sup>3</sup> Rather than operating as a monolith with a strict hierarchy, the unit consists of several smaller ORUs (hereafter referred to as “centers”) that function with some degree of autonomy within the larger structure.

The basic purpose of the umbrella arrangement is to encourage and assist organized research, not to submerge on-going research programs in bureaucratic minutiae. Its most important contribution to research is the provision of a stable infrastructure and coordinating mechanism. Except for any projects in which he or she is personally involved, the director’s tasks are largely those of a facilitator.<sup>32</sup>

Initially, the umbrella’s internal configuration would probably mirror the various units that were consolidated into it. Over time, the composition can be expected to change gradually in response to redefined problems, funding opportunities, and faculty interests. This implies that centers are not necessarily intended to be permanent; they can be created and abandoned almost at will. As such, the umbrella structure serves as a type of “incubator” for new ventures that require seed money to explore untapped research opportunities.<sup>3</sup> In a sense, each umbrella would function as a broker in its particular area of specialization, scouting out research opportunities, assembling project teams, and matching faculty capabilities with the needs of client groups.

Although internal governance practices will vary according to many institutional and personal circumstances, the umbrella framework implicitly embraces a decentralized administrative style. The commingling of diverse specialties, especially when many have previously worked in semi-autonomous ORUs, requires a delicate managerial touch.

An ambitious approach to decentralization would be for umbrella directors to assemble their center directors into policy-making boards. If this strategy is deemed to be unworkable, the relationship between the umbrella and center directors could be largely governed by regularized procedures. For example, center directors might be held accountable for a

given level of revenue generation, or be required to return a specific percentage of their total grant and contract funds to the umbrella for overhead costs. Relatedly, centers might be subjected to an annual review process, involving representatives from other centers and specified academic departments. Through such procedures, the umbrella leadership could enforce its expectations without having to resort to an intrusive administrative style.

Integration of Umbrella and Faculty. Another challenge facing educational administrators is to devise an incentive and reward system that encourages, rather than discourages, faculty participation in ORU activities. Ways need to be found to channel faculty efforts on behalf of ORUs back into the academic department's tenure, promotion, and salary decisions.

Although no panaceas have been discovered, a few universities have experimented with innovative reward systems that show significant promise. One of the best known is a faculty review process based on the undeniable premise that faculty aptitudes, interests, and abilities vary enormously. Acknowledging this reality, the plan uses periodic reciprocal agreements between faculty members and their administrative superiors as to assignments and expectations. In effect, agreement is reached in advance (usually on a one- or two-year cycle) concerning the planned allocation of the faculty member's time and the criteria that will be used to assess performance. These "contracts" are made... "with the clear understanding that these can be modified at subsequent reviews, depending upon external needs, internal priorities, and personal circumstances."<sup>2</sup>

A system of cyclical review and rearrangement of faculty workloads is only a short step away from the formal involvement of ORU directors in the evaluation of affiliated faculty performance. Even when working under an approved "contract," faculty who elect to apportion part of their time to organized research activities run the risk of falling victim to the "out of sight, out of mind" pitfall. The logical solution to this dilemma is to incorporate a first-hand assessment of the faculty member's ORU contribution into the departmental review process. A straightforward way of accomplishing this goal is to adapt the celebrated matrix structure to the reality of university personnel systems. This can be done by piggybacking on the faculty "contract" concept. Under this arrangement, faculty members, their department chairpersons, and umbrella directors would first negotiate agreements concerning the workload portions that will be devoted to organized research activities. Then, at the end of the review cycle, the ORU directors would provide direct feedback into the departmental review process. If, for example, 40 percent of a faculty member's time was

spent on a center project, then that percentage of the annual evaluation would be controlled by the ORU.

The success of such a plan would hinge on the clarity of faculty workload agreements. To avoid misunderstandings, as much formality as is deemed necessary could be built in. At a minimum, any expectations concerning credit toward tenure and promotion would need to be specified. Likewise, explicit guidelines relating to the documentation and evaluation of ORU contributions would minimize faculty uncertainty and expedite the performance review.<sup>4</sup>

## CONCLUSION

Initially, at least, the umbrella framework can be expected to attract more adherents among the central administration than it will within colleges and departments. The transition to a consolidated and centralized structure will likely be perceived as a one-sided exchange by many faculty, department heads, and ORU directors.

While such a reaction is both predictable and understandable, it would be unfortunate if the resulting sound and fury overwhelms candid debate concerning the applicability of umbrella ORUs to the university's particular needs and constraints. If the benefits and liabilities can be aired honestly, many universities will probably conclude that the case for umbrella units is compelling.

If implemented with sensitivity and diplomacy, umbrella units have something to offer virtually everyone who is concerned with upgrading the university research function. The same traits that make them appealing to central administrators should also enhance their attractiveness to lower levels of the hierarchy. Reduced fragmentation, a heightened programmatic (or problem) focus, more effective evaluation and control procedures, greater internal and external visibility, and clearer and more consistent research policies are potential benefits that could make everyone's job easier and more productive.

Although these factors alone may not be sufficient to counteract the reservations of some faculty, others will hopefully be persuaded by the likelihood that umbrella units will improve their own capacity to respond to research and service opportunities. Involvement in units that effectively pool expertise while still preserving task specialization can serve as a powerful inducement to faculty examining complex social, economic, and scientific problems.

Despite these apparent advantages, it would be naive or unduly optimistic to assume that substantial progress toward an umbrella framework

can be made quickly. Precipitous action on the part of central administrators would certainly harden opposition and compound the worst fears of most faculty.

For this reason, change would need to be introduced incrementally. A thorough review of existing ORUs, followed by the consolidation of those with the most ambiguous or inconsistent missions, would get the process off to a profitable start. From there, work could begin on the standardization of policies and procedures governing personnel practices, relations with sponsors, and other critical problem areas. Any additional reform would depend upon two critical elements: the successes, or lack thereof, of the first umbrella units, and strong leadership on the part of the upper administration.

If the major assumptions of this paper are even partly accurate, only extraordinarily bad luck or inept management could prevent the umbrella structures from elevating the university's research agenda. It will then become the task of the central administration to cajole further steps toward consolidation and assimilation. Although bringing a semblance of order to the current state of adhocracy will no doubt be a daunting chore, it will be well worth the leadership investment.

## REFERENCES

- 1 Grobman, Arnold B., and Janet S. Sanders (1984). *Interactions Between Public Urban Universities and Their Cities*. A report of the Division of Urban Affairs, NASULGC. Washington, D.C.: National Association of State Universities and Land-Grant Colleges, p. 7.
- 2 Lynton, Ernest A., and Sandra E. Elman (1987). *New Priorities for the University*. San Francisco: Jossey-Bass.
- 3 Emmert, Mark A. (1985). *Organized Research Units and General Administration: The Promise and the Problems of Marginality*. DeKalb, Illinois: Center for Governmental Studies, Northern Illinois University, p. 1.
- 4 Elman, Sandra, and Sue M. Smock (1985). *Professional Service and Faculty Rewards*. Washington, D.C.: National Association of State Universities and Land-Grant Colleges.
- 5 Nevins, Alan (1962). *The State Universities and Democracy*. Urbana, Illinois: University of Illinois Press.
- 6 Veysey, Laurence R. (1965). *The Emergence of the American University*. Chicago: University of Chicago Press.
- 7 Ashby, Sir Eric (1971). *Any Person, Any Study: An Essay on Higher Education in the United States*. New York: McGraw-Hill.

- <sup>8</sup> Dresser, Peter (1989). *Research Centers Directory*, 13th ed. Detroit: Gale Research.
- <sup>9</sup> Friedman, Renee C., and Robert S. Friedman (1984). "Managing the Organized Research Units." *Educational Record* 65 (Winter): 27-30.
- 10 Orlans, Harold (1972). *The Nonprofit Research Institute*. New York: McGraw-Hill.
- 11 Council of State Governments (1972). *Power to the States: Mobilizing Public Technologies*. Lexington, Kentucky: Council of State Governments.
- 12 Szanton, Peter (1984). *Nor Well Advised*. New York: Russell Sage Foundation and Ford Foundation.
- 13 Henry, Nicholas (1976). "State Agencies and Academia." *State Government* 49 (no. 2): 99-104.
- 14 Worthley, John A., and Jeffrey Apfel (1978). "University Assistance to State Government." *Journal of Higher Education* 49 (no. 6): 608-19.
- 15 Ikenberry, Stanley O., and Renee C. Friedman (1972). *Beyond Academic Departments*. San Francisco: Jossey-Bass.
- 16 Crosson, Patricia H. (1983). *Public Service in Higher Education: Practices and Priorities*. Higher Education Research Report no. 7. Washington, D.C.: Association for the Study of Higher Education.
- 17 Florestano, Patricia, and Ralph S. Hambrick (1984). "Rewarding Faculty Members for Profession-Related Public Service." *Educational Record* 65 (Winter): 18-21.
- 18 Committee on MIT Research Structure (1976), *Report of the Committee*. Cambridge: Massachusetts Institute of Technology. (Author's note: example of self-study.)
- 19 Day, Douglas N. (1976). *The Management of Organized Research Units at the University of California, Berkeley: Size, Politics, and Interdisciplinary*. Working Papers in Management Science, CP-399. Berkeley: Center for Research in Management, University of California.
- 20 Teich, Albert H. (1982). "Research Centers and Non-Faculty Researchers: A New Academic Role," in Don I. Phillips and Benjamin S. Shen (eds.) *Research in the Age of the Steady-State University*, 91-108. AAAS Selected Symposium Series. Boulder, Colorado: Westview Press.
- 21 Beyle, Thad L., and Samuel Gove (1972). "The Problem of University Involvement and Commitment," in Samuel Gove and Elizabeth Stewart (eds.) *The University and Emerging Federalism: A Conference on Improving University Contributions to State Government*. University of Illinois: Institute of Government and Public Affairs.

- 22 Kruytbosch, Carlos E., and Sheldon L. Messinger (1968). "Unequal Peers: The Situation of Researchers at Berkeley." *American Behavioral Scientist* 11 (May/June): 33-43.
- 23 Sommers, Gail G. (1989), *Urban Studies Centers in Institutions of Higher Education*. Unpublished diss. University of Akron, Akron, Ohio.
- 24 Hersey, Paul, and Kenneth Blanchard (1988). *Management of Organizational Behavior*. Englewood Cliffs: Prentice-Hall.
- 25 Crosson, Patricia H. (1989). "Professional Service in Member Institutions of the National Association of State Universities and Land Grant Colleges." Working title of unpublished document.
- 26 Dingerson, Michael R. (1977). "Internal Research Programs in Colleges and Universities." *Journal of Higher Education* 68 (May/June): 283-93.
- 27 Cravens, David W., Kenneth W. Heathington, and Ray A. Mundy (1976). "Organizing for Interdisciplinary Research in a University Setting." *Society for Research Administrators Journal* 8 (Winter): 7-14.
- 28 Cunningham, J.L., David Cravens, Kenneth Heathington, and Ray Mundy (1977). *Management of Interdisciplinary Research in Universities: Current Practices, Problems and Processes*. Knoxville, Tennessee: Transportation Center, University of Tennessee.
- 29 Bimbaum, Philip H. (1977). "Assessment of Alternative Management Forms in Academic Interdisciplinary Research Projects." *Management Science* 24 (November) : 272-84.
- 30 For a more thorough description see: Graham, Cole Blease and Steven W. Hays, *Managing the Public Organization*, Congressional Quarterly Press, Washington, D.C., 1986, Chapter 3; Koontz, Harold, Cyril O'Donnell, and Heinz Wehrich, *Management*, McGraw-Hill, New York, 1987, Chapter 13; MacKenzie, Kenneth D., *Organizational Structures*, AHM, Arlington Heights, Illinois, 1978; and Mintzberg, Henry, *Designing Effective Organizations*, Prentice-Hall, Englewood Cliffs, New Jersey, 1983.
- 31 Beasley, Kenneth L., Michael R. Dingerson, Oliver D. Hensley, Larry G. Hess, and John A. Rodman (1982). *The Administration of Sponsored Programs*. San Francisco.
- 32 Woodrow, Raymond J. (1978). *Management for Research in U.S. Universities*. Washington, D.C.: National Association of College and University Business Officers.

---

## Evaluating the Pre-award Research Administration Office

Sharon K. Davis

Research administration offices exist on almost every campus - public and private, large and small, undergraduate college and comprehensive university. These offices reflect a variety of organizational structures including a pre-award office which focuses on providing support services to faculty who are seeking external funds for research, instruction, and scholarly activity; a post-award office which focuses on the accounting process and proper procedures for expending grant funds awarded to a university; or, a combination of the pre-award and post-award functions. This paper focuses on the pre-award office.

There is, however, a dearth of information regarding evaluation of research administration offices on our campuses. Many questions need to be addressed in reviewing the functions and effectiveness of the research administration office. These questions include a myriad of themes: Are the goals of the research administration office clearly stated and implemented? Is the office functioning effectively? Are the services currently provided effective? Are there other services needed? Are the staff members doing their job? Through evaluation of the research administration office, these questions and numerous other significant questions can be addressed.

### DEFINITION OF EVALUATION

There is no widely agreed upon definition of evaluation in educational settings (Worthen and Sanders, 1987). Some authors equate evaluation with measurement while others define evaluation as the assessment of the extent to which specific objectives have been attained. In most educational settings, evaluation is the formal determination of the quality, effectiveness, or value of a program, a project, a process, or objectives. Evaluation uses inquiry and judgment methods including (1) determining standards for judging quality and deciding whether those standards should be relative or absolute; (2) collecting relevant information; and (3) applying the standards to determine quality.

---

Sharon K. Davis is Associate Director, Sponsored Programs, *University of Nebraska-Lincoln*, 303 Administration *Building, Lincoln*, NE 68588-0430.

## PURPOSES OF EVALUATION

Numerous authors have categorized the purposes for which evaluations are conducted. Most frequently noted are Brophy, Grotelueschen, and Gooler (1974), who described three major reasons for conducting evaluations:

1. Planning procedures, programs, and products
2. Improving existing procedures, programs, and products
3. Justifying (or not justifying) existing or planned procedures, programs, and products.

Talmage (1982) concluded that three purposes appear most frequently: (1) to render judgments on the worth of the program; (2) to assist decision-makers responsible for deciding policy; and (3) to serve a political function.

In summary, evaluation is a complex process. It is not a simple matter of stating objectives, analyzing data, or reporting activities. Its purpose must be determined and understood and the methods used in evaluation must be compatible with the purpose.

## FRAMEWORK FOR EVALUATING RESEARCH ADMINISTRATION OFFICES

Establishing a framework for evaluating research administration offices is helpful to the success and organization of the process. Three key questions must be addressed: (1) What will be evaluated? (2) Who will conduct the evaluation? and (3) How will the evaluation be conducted?

Evaluation of the research administration office is a comprehensive task. Evaluation goes beyond the annual report which frequently is limited to the number of proposals submitted, dollar amount requested, number of grant/contracts awarded, and dollar amounts awarded. Evaluation must also go beyond a survey of faculty.

### 1. What Will Be Evaluated in the Research Administration Office?

Many components readily lend themselves to evaluation in the research administration office. These include the goals of the office, the activities of the office, the staff employed by the office, the resources available to the office, and the impact of the office regarding externally funded grants and contracts.

Goals. One of the first questions asked in preparing to evaluate the research administration office is, "What are the goals of the office?" In reviewing the goals, it is also essential to determine the appropriateness and value of these goals. Inquiries should be made regarding how these goals are determined and whether or not they are justified. We must also ask how these goals are developed. It is important to determine who develops

the goals; the director of the research administration office, the staff, researchers, or an advisory committee could be contributors to the development of the goals.

Another component in evaluating the goals of the research administration office is to determine if the goals are in congruence with the research goals of the university. The goals of the research office must be compatible with the total research mission of the institution.

It is also important to question whether goals place the research administration office in a reactive role or in a proactive role. Many research administrators may find that they are serving a reactive role. This mode of operation is to wait for faculty, who have had no previous contact with the research administration office, to telephone or come to the research administration office with a proposal which they have prepared independently.

The goals of the research administration office must be clearly stated and they must be measurable. The goals must be in harmony with and purport the mission of the university. It is also important that the goals are communicated to the faculty and other administrators. Finally, these goals must be examined and evaluated on a regular basis.

Activities. The activities in which a research administration office participates must be reviewed and evaluated. These activities need to be evaluated in two dimensions. First, it should be determined if the activities of the office meet the goals established; the second consideration is that of assessing the outcomes of these activities.

Pre-award offices are engaged in a myriad of activities. These range from reviewing sources of funding, matching sources of funding to faculty interests, establishing a data base system so funding announcements can be distributed to faculty, conducting grant-writing workshops and research seminars for new faculty, assisting with the design of proposals, assisting with budget preparations, serving as the liaison with program officers, reviewing proposals prior to submissions, duplicating and mailing proposals, negotiating grants and contracts, and completing the final university review for accepting contracts. These activities must be evaluated to determine their need and their effectiveness.

Reviewing the activities of the research administration office can also determine if the office performs a reactive role or a proactive role for the campus. Does the office have planned outreach services such as training and programs for various faculty groups and administrators? Questions need to be raised to determine which role (reactive or proactive) is preferred by university administrators and faculty.

The activities of the research administration office can be conducted most effectively if the office has the support of university administrators as

well as the necessary funds and other resources. Therefore, the level of support must also be part of the review.

**Staff** The staff of the research administration office, their assignments, and their performance level are vital to the success of the research administration office. An assessment must be made to determine the role of the staff members, the activities in which they are engaged, and at what level of performance they are completing their responsibilities. Questions must be addressed such as: How effective are staff in meeting the needs of the researchers? How timely are staff in meeting the needs of the researchers? What improvements or revised staff assignments are needed in the office to better assist staff in effectively completing their assignments?

Questions regarding how staff spend their time should be reviewed. What are their assigned responsibilities, what is the importance of each responsibility to the office, and what percentage of their time do they spend on these responsibilities? Are the staff spending their time in a proactive mode - communicating with faculty and assisting them as they develop projects and budgets? Or, must staff spend their time in a reactive mode by attempting to redesign a proposal so it complies with RFP or making budget corrections due to incomplete information (new fringe benefit rate or new indirect cost rates).

**Resources.** The resources available to the research administration office must be evaluated. It is imperative that sufficient staff, secretarial support staff, student support staff, computer equipment, software packages, purchase of database systems, and financial support be reviewed. The resources available to the office must be evaluated.

**Impact of the Office.** A part of the evaluation procedure should be that of reviewing the impact of the research administration office on the university community. It is critical that the level of satisfaction faculty and administrators have toward the office be discerned. Indications that researchers are positively affected by the service provided must be reviewed. The president and other university administrators will be interested in evidence that the campus research environment is positively influenced by the research administration office. Results produced by the research administration office must complement the university mission as articulated by the president and governing bodies.

## *2. Who Will Conduct the Evaluation Of the Research Administration Office?*

Evaluations can be conducted using various types of individuals or groups. Three basic categories describe these groups: an internal committee or evaluator(s); an external agency or evaluator(s); or a combination of in-

dividuals using internal resources and external resources. Advantages and disadvantages exist for each of the three categories of evaluators.

**Advantages and Disadvantages of Internal Evaluations.** An internal evaluator has the advantage of having a more thorough knowledge of the institution and the research administration office. The internal evaluator is more likely to be familiar with the goals, activities, staff, resources, and impact of the office.

The disadvantage of using an employee or internal committee is that the individual or committee may be so closely associated to the university or the research administration office that it is nearly impossible to be objective. An external evaluator, although not knowledgeable about the fine details of the university or the office, has the advantage of not being influenced by preconceived ideas or perception of the value of the goals or activities of the office.

**Advantages and Disadvantages of External Evaluations.** A fresh approach and neutral perspective is an advantage inherent to an external evaluation. This viewpoint is supported by Scriven (1972) when he emphasized that to secure a good evaluation, the use of an external evaluator was the best way to proceed.

The advantages of using an external agency or evaluator have been summarized by Worthen and Sanders (1987) :

1. External evaluators are more likely to be impartial.
2. External evaluators due to experience in the field are more likely to be credible.
3. External evaluators allow the office to draw on expertise beyond that possessed by the staff or employees.
4. External evaluators have no predetermined positions or perceptions.
5. External evaluators may be able to relate to individuals who would be hesitant to provide the same information to a fellow employee because of the sensitivity of the situation.

Disadvantages of using an external agency or evaluator must also be weighed by the research administrator. These disadvantages, as noted by Worthen and Sanders (1987), include the following: (1) Costs are usually more expensive due to travel and to an evaluation fee; (2) At the beginning of the evaluation, the external agency or evaluator is more likely to be unfamiliar with the details of the office or the program. Additional time is needed to collect relevant data.

**Advantages and Disadvantages of *Using* the Internal/External Combinations.** The combination of internal/external evaluators has the advantage of bringing a fresh approach to the university in reviewing the research admin-

istration office while utilizing the experiences and knowledge of the internal evaluator. This combined effort requires cooperation and communication.

### 3. How Will the Evaluation of the Research Administration Office Be Conducted?

The method selected to conduct the evaluation of the research administration office must be given due consideration as it will provide guidance to the evaluation process.

One of the most common methods of evaluation at institutions of higher education is the academic program review. Academic departments are periodically evaluated or reviewed as a part of the institutional review process. This review is mandated by accreditation associations. In most cases, each academic department is reviewed every five years by one or more evaluators from other institutions and several faculty from other departments within the institution. Deans and faculty are familiar with this evaluation procedure and generally find it a helpful method of keeping their faculty and programs current. In addition, it is one method of showcasing a department's expertise to colleagues. Such an evaluation procedure could serve the research administration office well and more closely identify the office with academic departments.

In addition to the academic program review, another approach commonly used by administrators and policy makers in evaluating educational programs is a systematic approach commonly known as the CIPP Evaluation Model - context, input, process, and product. This approach was developed by Stufflebeam and Shinkfield (1985). This approach lends itself to educational settings which rely on decisions made about input, process, and output.

In designing an evaluation procedure for each research administration office, Stufflebeam (1973) proposed that these steps be followed: (1) focus the evaluation; (2) collect the information; (3) organize the information; (4) analyze the information; and (5) report the information. The evaluator and the administrator of the research administration office must work together to focus the evaluation on issues imperative to the office and the research mission of the university. The evaluator must also work independently of the research administrator.

**Focusing the Evaluation.** Major decisions are made regarding the focus of the goals, activities, staff, resources, and impact of the research administration office. Various degrees of emphasis are placed on the importance of each of these considerations.

**Collecting of Information.** Collection of information is an integral part of this method of evaluation. Questions need to be addressed including,

What kind of information should be collected? Types of information to be collected might include office records, annual reports, written goals and activities of the office, and opinions of individuals who use the office.

In collecting information evaluators might also ask: Should a written survey or a telephone survey be conducted? Would it be appropriate to conduct interviews? Who should be surveyed or interviewed - staff, researchers, and/or university administrators? When should the collection of data occur?

*Organizing the Information.* The organization of the information will be determined by the type of information acquired, the reporting procedures used, and the audience to whom the information is being reported.

*Analyzing the Data.* The evaluators must judge the adequacy of the collected data and determine the procedures for data analysis.

*Reporting the Information.* The format for the evaluation report should be determined prior to the evaluation itself. The audience, or those who will review and use the report, must be outlined.

*Additional Considerations.* Other basic considerations regarding the evaluation process include developing a schedule for the evaluation and determining staff and resource requirements needed to conduct the evaluation. Finally, a budget for the total evaluation process must be determined. In developing the schedule for the evaluation, the research administrator must decide if the evaluation should occur in the fall or the spring. How much time should be allowed for the entire process? Should the completed evaluation be part of the annual report? In determining staff and resource requirements consideration must be given to questions such as: How much time and effort can staff devote to this activity? What resources, reports, and scheduled meetings will be needed? Budget considerations to be addressed include the following: From what budget will the evaluation be paid? How much will the evaluation cost? Is the cost worth the effort?

## IMPLICATIONS FOR THE RESEARCH ADMINISTRATION OFFICE

Evaluation of the research administration office is imperative. Evaluations ensure that appropriate and timely decisions about the effectiveness of the office, the justification of the office, and any needed expansion of the office are well founded. Information acquired during the evaluation process is essential in making decisions about the goals and activities of the office,

staff decisions, resource decisions, and budget decisions. These decisions affect not only the research administration office but the research climate on our campuses. It should also be keenly realized that data gathered during the evaluation process become an integral component of strategic planning not only for the research administration office but for all research initiatives at our institutions.

### CASE STUDY

During the summer of 1990, a telephone call was received from the director of a research administration office who wished to have an evaluation completed. We discussed such topics as the purpose of the evaluation, size of the office operation, aspects of an evaluation, services provided by the office, possible evaluation methods to be used, a general time for the formal evaluation to be completed, and a loosely defined time for the entire process to be finalized. No specific arrangements or agreements were made during this initial telephone conversation.

I spent the next week gathering into one large file folder copies of materials I had used in previous evaluation studies. These included survey forms, interview forms, and faculty questionnaires. I also took time to conduct a library search to determine if there were materials available for conducting an evaluation of a research administration office - there was no need to reinvent the wheel. Through the library search, I discovered that no specific plans were documented and, furthermore, little literature had been printed relating to evaluation of research administration offices. My next step was to make telephone calls to my colleagues in the research administration field to determine if they had ever served as an external evaluator for a research administration office. Again, my thought was that if a defined plan or outline of evaluation materials existed, time and effort could be saved. These conversations confirmed that little was occurring in the field regarding systematic formal evaluations of research administration offices by external evaluators.

This week also provided time to outline the components of a possible future evaluation. I developed a list of areas and topics which I thought should be addressed. Also developed was a proposed time frame for developing a faculty survey, developing interview questions, collecting data, analyzing data, and writing a final report.

After a week's time of gathering information, developing a plan, and outlining a time frame, I made a return telephone call to discuss the evaluation activities in more detail. During this second telephone conversation, I outlined the evaluation procedures to the director of the research

office. We also agreed on a definite time frame for the on-site portion of the evaluation and the completion date needed for the final report. Those portions of the evaluation which could occur on-site and those portions of the evaluation which could be conducted from Nebraska were noted. The budget needed to conduct the full evaluation was also discussed.

The second phase of the evaluation process was one of information gathering and required an excellent working relationship between myself and the staff at the research administration office. I requested and received the college handbook, the college admissions guide, the mission statement of the research office, all publications printed by the research office such as reports, newsletters, brochures, pamphlets, flyers, job descriptions. My purpose was to learn about the university - its instructional mission and its research mission. In addition, information was needed regarding its organizational structure, resources, faculty teaching load, and reward system for sponsored research. Information was needed to formulate both open-ended questions and specific, fact-finding questions, as well as questions regarding both administrator and faculty perceptions of, experiences with, and attitudes toward the research administration office.

The on-site evaluation was conducted during a two-day period. Interviews were conducted with the research administration office staff, deans of the colleges, faculty members, an administrator representing the business affairs office, and an administrator representing academic affairs. The interview sessions focused on the services of the research administration office, the effectiveness of the services of the research administration office, and benefits and deterrents for seeking or not seeking external funding for research projects. The deans of the colleges and faculty members from the colleges were asked to respond to the following questions during individual interviews which were approximately one hour in length.

1. In your opinion, what is the major goal or mission of the research administration office?
2. Can you describe some of the services the research administration office provides and how these services affect you?
3. What percentage of the faculty at the university are involved in research/scholarly activity?
4. What percentage of the faculty are involved in funded research/scholarly activity?
5. What do you and other faculty see as the benefits of sponsored research?
6. What are the deterrents from seeking and securing sponsored projects?

7. What are the incentives at this university for obtaining grant or contract awards?
8. What are the rewards at this university for obtaining grant or contract awards?
9. What type of experiences have you had in working with the research administration office and its staff?
10. How does the research administration office and its staff assist faculty and the university in developing proposals and in administering the awarded grants and contracts?

The professional staff members of the research administration office were also asked a series of questions including:

1. What are the goals of the office?
2. What are the objectives of the office?
3. When and for what purpose was the office established?
4. What are your current priorities?
5. How do you presently serve the faculty?
6. In looking into the future (five years from now) how do you see the office functioning? How will the mission of the office have changed?
7. What needs to be accomplished to meet the needs of the future?
8. What resources (personnel, equipment, supplies, materials, programming, etc.) do you have?
9. What resources (personnel, equipment, supplies, materials, programming, etc.) need to be acquired?
10. What are the major long-range priorities which need to be accomplished?

A survey instrument was developed and mailed to each member of the faculty. The instrument was designed to determine what faculty were using the services of the office and the quality of the services during (1) pre-proposal activity (2) proposal development and submission, and (3) post-award activity. Another section of the survey focused on faculty incentives and rewards on which the research administration office could focus its future efforts.

## BIBLIOGRAPHY

- Brophy, K., Grotelueschen, A., and D. Gooler (1974). A Blueprint for Program Evaluation, Occasional Paper no. 1. Urbana-Champaign, University of Illinois, College of Education, Office for Professional Services.
- Scriven, M. (1972). "Pros and Cons about Goal-Free Evaluation." *Evaluation Comment* 3 (no. 4): 1-7.

- Stufflebeam, D.L. (1973). Excerpts from "Evaluation as Enlightenment for Decision Making." In B.R. Worthen and J.R. Sanders (eds.), *Educational Evaluation: Theory and Practice*. Belmont, CA: Wadsworth.
- Talmage, H. (1982). "Evaluation of Programs." In H.E. Mitzel (ed.) *Encyclopedia of Educational Research*, 5th ed. New York: The Free Press.
- Worthen, Blaine R., and James R. Sanders (1987). *Educational Evaluation: Alternative Approaches and Practical Guidelines*. White Plains, NY. Longman Inc.

# A Model for Developing a Research Administration Handbook that Faculty Will Use

Deborah K. Vetter and Amy R. Staley

**Abstract.** In an effort to make the proposal process more efficient for the research office and faculty, research administrators are looking for ways to effectively communicate basic information about developing and administering grant projects. Based on current principles of technical writing, this paper outlines steps for planning, designing, and producing a handbook for researchers. Technical writing classifies effective writing as “usable” and stresses that writing is usable when it is presented in a way the reader can easily understand and apply. By highlighting the decisions made in developing Wright State University’s research handbook, this paper will serve as a model for other universities interested in producing a research administration handbook that faculty will use.

This article describes reasons for creating a research handbook, summarizes a process for its development and production and lists major content areas. In addition, the article suggests a medium for producing the document and discloses problems that may delay its completion.

## INTRODUCTION

**R**esearch administrators are recognizing the need to document basic information related to developing and administering grant projects. If information about basic components of research administration, such as university policies, budget constructions, and federal regulations, have not been properly documented, research administrators must verbally repeat this information to faculty on an individual basis. This method of communication reduces the efficiency of the research administration office by keeping the faculty dependent on the research office for critical information. A more effective form of communication would allow researchers to quickly and accurately complete the basic steps in proposal development with minimal interaction with the research office.

---

Deborah Vetter is Assistant Director, Office of Research and Sponsored Programs, Wright State University, Dayton, Ohio. Amy Staley is a Wright State University graduate student in technical writing.

#### Reasons for Documentation

Documenting this basic information in the form of a handbook or manual can improve communication. Producing a written document that effectively summarizes policies and procedures related to developing and administering grant projects provides the following advantages:

- decreases the amount of time researchers spend seeking basic information,
- reduces the number of errors in formulating and administering projects,
- reduces the amount of time required to produce and submit a proposal and to administer a project, and
- decreases the amount of time the researcher spends in the research administrator's office asking questions and solving problems.

These advantages benefit the faculty, the research administration office, and the university. The increased efficiency a handbook provides allows faculty to respond to more external funding opportunities and allows research administrators to expand their research development activities. These efforts would increase the potential for raising the university's volume of external dollars. In addition, properly managing the proposal development process reduces the proposal production costs of the university.

#### *Ineffective* Documentation

Research offices may have invested time putting pertinent information into writing only to find the information was not used. Studies show that documentation fails more often because it is ineffective for a particular audience than because it is poorly written. A reason documentation may fail is that it is written from the writer's perspective. Author-centered writing, which is less effective than reader-based writing, does not consider the readers' characteristics, work environment, and the tasks they must accomplish. Reader-based documentation, a style of writing that requires the author to define the reader, is written from the reader's perspective with the reader's needs in mind.

## DEVELOPMENT PROCESS

By applying current principles of reader-based writing to the information needs of university researchers, the Office of Research and Sponsored Programs at Wright State University has designed a handbook on policies and procedures for research. With the decisions made in developing the

research handbook highlighted, this process can serve as a model for other universities interested in producing usable documentation. This model describes the basics for planning, designing, and producing a research handbook.

#### *Planning Team*

Creating a usable document requires input from three perspectives: the user's (researchers and scholars from different disciplines), the information specialist's (research administrators and experienced researchers), and the document coordinator's Representatives from these three perspectives form the planning team.

To develop our planning team, the Vice President of Academic Affairs appointed an advisory committee of researchers and scholars. Our team also included a document coordinator and a technical writer. The document coordinator, an assistant director in Wright State's Office of Research and Sponsored Programs, evaluated and integrated the suggestions of the advisory committee and other faculty, staff, and administrators as well as the perspectives of the staff in the research office. Our technical writer, a graduate student in the university's Technical Writing Program, helped design, write, and edit our handbook. Several universities have similar writing programs. Student interns (and their advisors) from technical writing programs are valuable resources for creating a visually attractive and technically designed document.

#### *Design*

To design a handbook that faculty will use requires that the writer accommodate the reader's capabilities, environment, and time constraints. The content, organization, format, and writing style of printed material directly affect the reader's ability to use it.

Content. The reasons for writing a handbook help to define the content. The audience will also influence the information you include. In planning the content of Wright State University's handbook, we reviewed research manuals from other campuses and studied texts on proposal preparation to determine the researchers' needs. Steps for developing a research proposal provided a framework for constructing Wright State's handbook. Chapter 1, a basic instructional chapter, outlines these steps, and the remaining chapters serve as a reference for completing the steps. We determined the content of individual sections within a chapter by asking three basic questions:

- What are the responsibilities of the reader?

- What will our office do?
- What background information will the reader need to understand this information?

*Organization.* The organization of a handbook refers to the order in which the information is presented. Printed materials are effectively organized when the reader can locate important information quickly and easily. Organizing topics by task increases a document's effectiveness. A task-oriented document contains only what the reader needs and is arranged in a sequence logical to the reader. In addition, it meets the reader's expectations and is designed to be compatible with the reader's background and skill. Wright State University's handbook reflects a task-oriented approach because it lists steps for the reader to follow to accomplish a task and uses formatting techniques to help the reader easily locate information.

The chapters of our handbook have been presented in an order that faculty would most likely follow in developing a proposal. For example, information on submitting proposals is one of the last chapters in our handbook. To define the organization of chapters and individual sections, we asked these questions:

- What steps must the reader follow?
- Will the reader locate the information more easily if it is organized sequentially or alphabetically? What is a logical arrangement to the reader?

The organization of Wright State University's handbook changed as we became more familiar with our audience's needs. As chapters progressed, it became clear that some of the information presented in later chapters needed to be available to the reader at an earlier stage.

*Format.* Format refers to the way the information appears on the pages. It affects how you divide and label information as well as how you arrange it. Formatting should enhance the text, making it easy to read. The formatting techniques we have incorporated include the following:

- visuals to summarize text through flowcharts, tables, and boxes,
- redundancy to emphasize key ideas and prevent readers from moving back and forth through the document to locate information,
- white space to make materials inviting to read, such as designing page layout with wide margins,
- \* numbered or bulleted lists to organize information for easy scanning, and
- headings to help the reader locate and understand information.

*Writing Style.* Word choice, length of sentences and paragraphs, types of sentences, and the author's tone are components of the writing style. In

choosing the style of writing for our handbook, we again considered the needs of our readers. Although our university audience is capable of using documentation written at a high language level, we chose to write at a level that would require minimal effort to understand. For example, simple words replace jargon, and ideas are presented from the reader's point of view. As we developed a section, we asked the following questions:

- Is the necessary context provided?
- Is our purpose for giving the information clear to the reader?
- Have we omitted critical information?
- Would examples help clarify the information?
- Is our writing precise?

## PRODUCTION PROCESS

After planning and designing the document, you are ready to produce it. The stages for producing a handbook include defining your audience, writing an outline from the reader's perspective, designing modules, developing the storyboards, submitting the document for critique by users, composing narrative, and finally, editing the document.

### 1. Define your audience.

The audience is a group of readers who share a common background and who must accomplish similar tasks. If the audience is diverse, it may be necessary to produce a series of documents.

We analyzed our audience to determine the groups of readers who need to know about research policies and procedures. In studying the campus community, we identified the first-time, occasional, and experienced proposal writers from all disciplines, the typist who must complete standard government forms, and chairs and deans new to the university. Based on the opinion of our advisory committee, we decided to produce one document and to target faculty who have only basic knowledge about obtaining external funding. By identifying the common needs of this targeted group, we determined the amount of detail, the language level, and the tone of the document.

### 2. Write an outline from the reader's *perspective*.

We adapted our outline from existing documentation and revised it several times to ensure it was task-oriented and reflected the reader's view.

**Collect Information.** Before beginning our handbook outline, we collected information from several sources including:

- materials developed by Wright State University's Office of Research and Sponsored Programs for presentations, seminars, and newsletter articles,
- materials from professional journals and newsletters,
- library materials on proposal development, and
- models of policy manuals from other campuses.

Develop Outline. To begin the outline, we identified major topic categories to include in the handbook. The reasons for documenting a handbook, cited earlier in this paper, helped determine the topics to be covered in the handbook.

The content of Wright State University's manual (Appendix A) started from a brochure of the Office of Research and Sponsored Programs (RSP) that lists the services RSP offers. We expanded this list to include subtopics.

Address the Reader's Perspective. We refined our list of topics and subtopics in the outline to address the reader's perspective. For example, we changed the words "Disseminating Information" to "Locating Funding Sources," the same concept but from the faculty's perspective.

### 3. Design *modules*.

A module is a small, meaningful, independent unit of information in a document. Several modules make up a chapter. To develop individual modules based on topics and subtopics of our outline, we:

- studied the information we had collected to identify important points,
- evaluated the amount of information to include,
- grouped information into natural categories, and
- identified techniques for formatting the information.

To create a module, we designed the information for each subtopic of the outline to fit on one or two pages. If it did not easily fit on one or two pages, we divided the information into smaller units.

In our handbook, the first module of each chapter highlights the contents of the chapter, describes the arrangement of information, and establishes a relationship between the reader and new information. A shaded box at the top of each module summarizes the information covered in the chapter. (See figures 1 and 2, Appendix B.)

### 4. Develop storyboards.

Storyboards are a series of drawings that represent the content, organization, and format of the module. They may include a synopsis of the infor-

mation to be covered on that page as well as a diagram of the visuals that will accompany the written material. Storyboards give you an idea of what the page will look like and where to place graphics. (See figure 1, Appendix B.)

Storyboards developed as part of a module format benefit the reader, writer, and designer. This systematic arrangement of information helps readers locate and apply the information more quickly because they can begin to predict how the author will present the information. In addition, this approach allows writers to work independently of each other and know how much to write and the points to cover. This approach also ensures that the designer can estimate the number of pages and costs of production.

5. Submit for critique by users.

Writers who are experts in a field may find it difficult to anticipate the needs of readers who may not be as familiar with the subject. Therefore, a representative group of readers is valuable in testing the usability of the document. Our planning teams advisory committee, which represented experienced and inexperienced researchers and scholars from the major disciplines, reviewed the storyboards for clarity, accessibility, and relevance.

6. Compose narrative.

Composing text only after the user has reviewed the outline and story boards helps to ensure the manual will be usable. Before investing time in writing the narrative, users review the outline and design of the storyboard and suggest changes. It is easier to revise materials before the writer has invested time composing text. Composing the text will require less time if the storyboard is well constructed.

7. Edit the document.

The document should be edited for content, organization, format, and quality of writing. In addition, a module format requires some special editing considerations. Individual modules must be compared for their overall relationship within the chapter. Modules that introduce chapters are reviewed for relevancy to the whole handbook.

All modules are edited:

- to ensure a consistent use of headings, categories, and terms,
- to identify a need to restructure the content or to move materials from one module to another,
- to check for spelling, grammatical errors, and punctuation, and

\* to compare the format of each module, such as the spacing between words and paragraphs and the placement of visuals such as graphs, boxes, and title bars.

Because formatting modules tends to be more complex than other styles of handbooks, you may find it helpful to develop a style guide of format specifications. Style guides save time and provide an accurate way of ensuring consistency in the writing and format.

#### Evaluation

Because faculty have evaluated the design and contents at each stage in the production of our handbook, problems that would have reduced the effectiveness of the document were resolved at an early stage. Wright State University is in the final stages of producing its handbook. Before printing the handbook, we will ask our advisory committee and other faculty to review the text to identify problems that may have been missed.

#### Medium

Cost and maintainability will influence how the document is bound. Binding choices include loose-leaf binders, comb-bound, and glued margins. A loose-leaf binder increases the usefulness of the handbook because new pages can be added and old information can be replaced without having to reprint the entire handbook.

#### Potential Delays

Situations that may delay the completion of the handbook include:

- **Time commitment.** To ensure that realistic deadlines can be met, the document coordinator needs to devote a percentage of effort to this project rather than progressing as the office workload allows. According to Writers, Inc., a writer can be expected to produce one page of text per day when researching, organizing, and writing new manuscripts on topics requested by clients; two pages per day for organizing and writing new manuscripts using material supplied by clients.
- **Lack of established policy.** If the institution has not developed policies, the research office may need to define procedures appropriate for protecting the university and its employees. In the future, these procedures may become policy.
- **Other important opportunities.** To ensure that the handbook is completed, decision makers must agree that it is a priority for the office; however, not to the extent that important opportunities are missed.

- Permission from authors. If you plan to use materials developed by other authors, you should allow time to obtain their permission.

## SUMMARY

Documenting basic information will:

- make the proposal process more efficient for both the office and the researcher,
- promote a higher degree of professionalism when formulating a proposal for grant funds,
- improve the working relationship between the office and the researcher, and
- allow and encourage researchers to work more independently from the office when formulating their proposal.

Recognizing the significant benefits of producing a handbook will ensure the handbook remains a high priority among the goals set for the office. Because of the time investment required to create this document, the rationale for producing it should directly benefit the office of research administration and the university's research community.

## APPENDIX A

### **Major Content Areas Research and Sponsored Programs Handbook Wright State University**

#### **0.0 Introduction/preface**

#### **1.0 Steps of proposal development**

- 1.1 Begin with an idea
- 1.2 Translate idea into activities
- 1.3 Identify funding source(s)
- 1.4 Learn about the sponsors and their programs
- 1.5 Contact the program staff
- 1.6 Write a concept paper
- 1.7 Determine costs
- 1.8 Prepare the proposal
- 1.9 Submit the proposal

#### **2.0 Office of Research and Sponsored Programs**

#### **3.0 Other university resources**

#### **4.0 Identifying funding sources**

#### **5.0 Internal and external programs**

#### **6.0 Proposal preparation**

*Research* Management Review

**7.0 Budgets**

**8.0 Federal forms**

**9.0 Compliance with federal regulations**

**10.0 Proposal submission**

**11.0 University policies relating to research**

**12.0 Technology transfer**

**13.0 Contract negotiations**

**14.0 Site visits**

**15.0 Post-award**

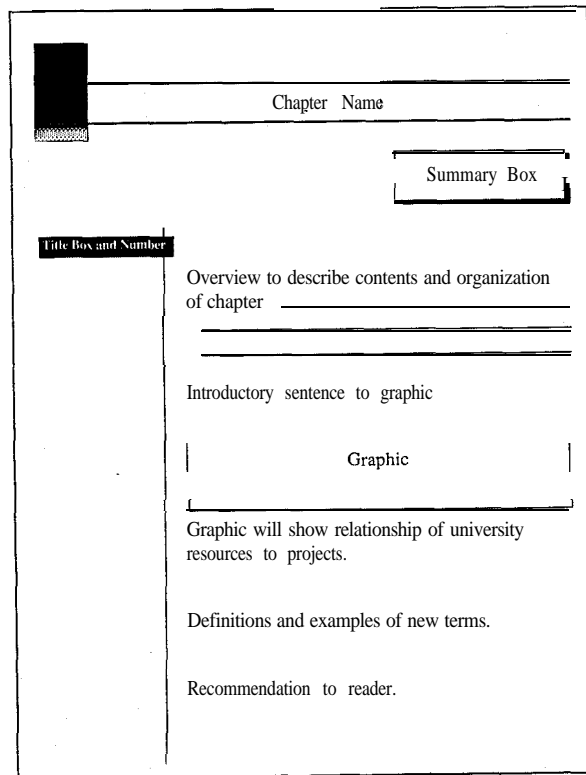


Figure 1. An example of a storyboard

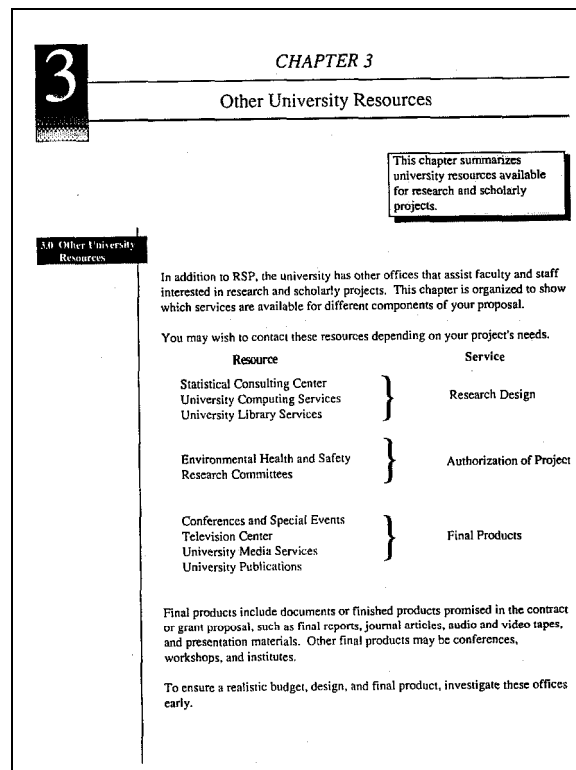


Figure 2. The final module developed from the Figure 1 storyboard

## SELECT BIBLIOGRAPHY AND SUGGESTED READING LIST

- Boston, Bruce O., ed. STET! Tricks of the Trade for Writers and Editors. Alexandria, Virginia: Editorial Experts, 1986.
- Brusaw, Charles T., Gerald J. Alred, and Walter E. Oliu. Handbook of Technical Writing 3rd ed. New York: St. Martin's Press, 1987.
- Flower, Linda. Problem Solving Strategies for Writing. New York: Harcourt Brace Jovanovich, 1989.
- Guillemette, Ronald A., "Usability in Computer Documentation Design: Conceptual and Methodological Considerations." IEEE Transactions on Professional Communication 32 (December 1989): 217-25.
- Kolin, Philip C. and Janeen L. Kolin. Models for Technical Writing. New York: St. Martin's Press, 1985.
- Philbin, Alice I. and John W. Presley. *Technical Writing: Method, Application and Management*. Albany, New York: Delmar Publisher, 1989.
- Schrifer, Karen A. "Evaluating Text Quality: The Continuum From Text-Focused to Reader-Focused Methods." IEEE Transactions on Professional Communication 32 (December 1989): 238-52.
- Weiss, Edmond H. How to Write a Usable User Manual. Philadelphia: ISI Press, 1985.

# University Responsibility for Misconduct in Research<sup>1</sup>

Nicholas H. Steneck

**A**s university research administrators weigh the challenges they will face in the future, misconduct in research undoubtedly looms large. At many universities, misconduct in research has garnered increasing amounts of time and expense. This paper suggests that these trends are unlikely to change in the near future, placing greater and greater pressure on university research administrators to deal responsibly and effectively with misconduct in research. This suggestion is based on the answers to four questions, followed by a listing of four responsibilities that all research universities should consider adopting.

## QUESTIONS ON MISCONDUCT IN UNIVERSITY-BASED RESEARCH

### I. Is misconduct in research a problem?

This simple, straightforward question is without a doubt the most difficult question that underlies the entire topic of misconduct in research. What is “misconduct”? What constitutes “a problem”?

In terms of the number of reported cases of outright fraud, fabrication of data, and plagiarism - the three main categories of research misconduct - misconduct in research is certainly not a common occurrence. The Office of Scientific Integrity Review in the Public Health Service has confirmed only 15 cases of misconduct in research since it began operation in March 1989.<sup>2</sup> Given the thousands of researchers engaged in research in the United States, the amount of serious misconduct surely falls well below one tenth of one percent (one researcher in a thousand) and perhaps as low as the .0001 percent suggested by Daniel Koshland in his editorial on this subject a few years ago in *Science*.<sup>3</sup>

However, figures alone do not tell the entire story. A single case, badly handled, can undermine public trust in any university. A few cases have been sufficient for Congress and the media to raise serious questions about

---

*Nicholas H. Steneck is Professor of History and Director Of the Historical Center for the Health Sciences, University Of Michigan, Ann Arbor, MI 48109-0608.*

the accountability of university research. The goal of research is to seek truth and understanding. Anything that undermines this goal, which misconduct surely does, is likely to make it more difficult for universities to function effectively, especially in times of financial crisis. Therefore, misconduct in research does pose a problem for universities, whether or not the amount of misconduct is deemed statistically or numerically significant.

*2. Should universities play a major role in monitoring misconduct in research?*

By default, the answer to this question must also be “yes.” “By default” because professional organizations and the government, the other two institutions in a position to deal with misconduct in research, may not be able or desirable partners in monitoring research.

Professional organizations lack the resources and authority to take major roles in misconduct investigations. They may also lack the will. Misconduct investigations can be time-consuming and, if legal challenges are involved, expensive. Most professional organizations do not have the staff and resources to carry out such investigations. Moreover, since membership in professional organizations is generally voluntary, their authority to investigate and power to discipline is limited.

The federal government, as a major sponsor of university research, has both the resources and authority to take a major role in misconduct investigations. However, relying on the cumbersome and necessarily legalistic mechanisms of government to ensure the integrity of university-based research can undermine openness and professionalism. Moreover, relying on the government to ensure integrity in research suggests that universities cannot perform this function themselves, a suggestion that does little to bolster public confidence in universities and their research programs.

*3. Are research universities prepared to handle misconduct cases?*

Seemingly they are. Most major research universities have misconduct policies - as required by law if they accept federal funding.” These policies commonly define misconduct, establish procedures for investigations, and provide guidance on disciplinary action. Most universities also have policies that regulate the use of human subjects, animals, chemicals, and recombinant DNA technology. They have policies governing conflict of interest, secrecy, and other aspects of research. In combination, these policies help ensure the integrity of university research programs.

However, the existing misconduct and related policies can also prove woefully inadequate when they are tested in difficult cases, i.e., in cases where the dividing line between acceptable and unacceptable behavior is unclear. They seldom provide precise definitions that can be applied

clearly to each and every case. Due process and personal protection rules can easily become confused when one or more of the parties decides to challenge the proceedings. Conflict of interest is problematic since misconduct investigations are always to one extent or another self investigations. Thus, the existence of policies does not mean that universities are prepared to handle misconduct investigations - a fact that is too often discovered only after a difficult case has arisen.

4. How should research universities understand their responsibilities vis-a-vis misconduct *in* research?

My response to this question is: as broadly and as proactively as possible. The following *four* levels of responsibility stand out as particularly important.

#### FOUR RESPONSIBILITIES OF RESEARCH UNIVERSITIES

Responsibility # 1. Universities *should* investigate allegations of research fraud quickly, fairly, and honestly.

Research fraud is usually defined as the deliberate attempt to manufacture data, falsify data, or plagiarize someone else's work. In principle, there is widespread agreement that such practices should not be tolerated. In practice, discovering, proving, and adjudicating research fraud can be more difficult.

Universities have inherent conflicts of interest in research fraud cases. Universities review in advance and administer while in progress all of their funded research. They regularly review the performance of researchers and administrators for promotions and annual salary adjustments. They are also communities of individuals who know each other personally, exchange ideas, and benefit from shared reputations. All of these factors can make it difficult to take allegations of research fraud seriously and to pursue investigations quickly, fairly, and honestly. However, experience has consistently shown that if they do not, the consequences in terms of lost confidence and public support will far outweigh the costs of a quick, fair, and honest response to charges.

Responsibility #2. Universities *should* investigate allegations of research misconduct quickly, fairly, and honestly.

"Misconduct" is conduct that seriously deviates from appropriate or normative conduct, such as using another's (i.e., a student's) ideas without proper credit, failing to keep confidential information confidential, biasing reviews for your own or someone else's advantage, failing to share ideas in

due time, and similar “unprofessional” or “unethical” conduct. Such conduct may not represent outright research fraud, but it can fall significantly short of the high ethical standards that most researchers and certainly most research universities claim to foster.

As with research fraud, it is easy to commit to high ethical standards in principle; in practice, setting high ethical standards can be more difficult. When does sloppy research become intolerable? How far can competition be pushed before it becomes unprofessional and unethical? How loose can supervision (e.g., in large laboratories) and responsibility (e.g., for the content of publications) become before the standards for “high ethical standards” are compromised unacceptably?

Universities cannot ignore these questions without risking the loss of credibility and public confidence when sloppiness and marginal ethical standards become matters for public scrutiny and debate. It is arrogant and irresponsible to suggest, as has been done in response to concerns about possible government intervention in “sloppy science” cases, that the public has no right to be concerned about sloppy science and misconduct that falls below the threshold of fraud, fabrication, and plagiarism.

Responsibility #3. Universities should foster responsible conduct as well as monitor misconduct.

Over the last decade, there have been increasing calls for proactive misconduct policies, that is, for policies that go beyond monitoring misconduct to fostering responsible conduct in research.<sup>5</sup> Such policies make sense for two reasons.

As anyone who has gone through a difficult misconduct investigation knows, prevention is without question preferable. In other words, self-interest provides one motivation for proactive policies. More importantly, however, as the main educators of professional researchers, universities have a professional and, I would argue, ethical responsibility to include research ethics in their graduate and training programs and in their rules and regulations for undertaking research. Responsibility should also demand that proactive programs relating to research ethics should be effective programs that are designed to have an impact. If universities expect the public to believe that integrity is being taken seriously, then universities must themselves take the responsibility to foster high ethical standards seriously.

Responsibility #4. Universities should evaluate their own conduct in promoting research.

Ethical standards for appropriate conduct in research are most commonly fostered by example through mentoring. Fostering by example can extend

well beyond one-on-one mentoring relationships. Universities can also foster high ethical standards by example.

Research policies and practices influence research environments. Promotion practices can decrease or increase pressure to publish. Funding practices can relieve or aggravate the need to secure “outside” support. Competitiveness or cooperation can be affected by subtle practices, such as allotting research space in proportion to the amount of outside funding received. Service to students and teaching can be taken seriously or ignored. In large and small ways, universities set the tone and expectations of their research programs. They can foster integrity by making sure that their research policies and practices are consistent with high standards for integrity.

## CONCLUSION

Although researchers may gain personal satisfaction from their work, research is today a public not a private matter. The public invests heavily in research and has a vested interest in its results. Universities occupy a privileged place in research circles. They enjoy relatively unrestrained academic freedom. In return, they must aggressively assume the responsibility for ensuring that their public trust is not broken by tolerating misconduct in research. A strong, aggressive stand on the inappropriateness of misconduct in research of any kind will help to restore public confidence in university research and lessen the incentives for the public to pursue every misconduct case, however important or unimportant. A strong stand on misconduct will also help ensure that research dollars are spent on research rather than misconduct investigations and campaigns to restore tarnished institutional reputations.

## REFERENCES

- 1 From a talk presented at the panel session on “Research Misconduct: Individual Rights, Institutional Responsibilities and Sponsor Expectations,” National Council of University Research Administrators, Washington, D.C., November 5, 1991.
- 2 Public Health Service, Office of Scientific Integrity Review, *Scientific Misconduct Investigations: March 1989-December 1990*, (Department of Health and Human Services, n.d.).
- <sup>3</sup> Koshland Jr., Daniel E., “Fraud in Science,” *Science* 235 (9 January 1987): 141.
- <sup>4</sup> *Federal Register* 8 (August 1989): 32446.

**Research** Management Review

<sup>5</sup> See: Steneck, Nicholas H., “Fostering Responsible Conduct in Science and Engineering Research: Current University Policies and Actions,” forthcoming.

## Instructions to Authors

**T**he National Council of University Research Administrators (NCURA) welcomes contributions of original manuscripts to *Research Management Review* covering any aspect of research administration. Manuscripts should be submitted to: Editor, Research Management Review, NCURA, One DuPont Circle, N.W., Suite 220, Washington, D.C. 20036.

All manuscripts, including those written at the invitation of the editor, are subject to peer review by the editorial advisory board or selected reviewers; however, the final decision as to which articles are to be published will be made by the editor. *Research Management Review* accepts manuscripts for review with the understanding that the submission has the approval of all authors involved, and that the same work is not presently submitted elsewhere nor will it be if accepted for publication by RMR. A signed agreement will be required which assigns the copyright from the author to NCURA.

Manuscripts. An original and one copy must be submitted. Manuscripts must be machine copies, double-spaced throughout (including references), with pages numbered consecutively.

Include on the first page the title, name(s), and affiliation(s) and mailing address of the author(s). At the bottom of this page, note the number of manuscript pages, figures, and tables. Places where figures and tables are to appear in the published paper should be marked in the margins of the manuscript.

An abstract of 100-200 words summarizing the topic and principal conclusions should preface the manuscript.

Provide a brief (less than 100 words) author's background statement with the manuscript.

References should be numbered consecutively and listed together at the end of the manuscript, before the acknowledgment, if any. The following format should be used for references:

**Public Document.** Division issuing the document, Title, Author - if given, Report No. (City: Publisher - if different from the issuing division, 1991) 140-42.

**Periodical or Journal.** Author's Last, First Name, "Article Title," Periodical X (Month 1991): 18.

Book. Author's Last, First Name, Title (City: Publisher, 1991), 140-42. Please avoid the use of footnotes.

**Tables** should be numbered consecutively in the order in which they

are introduced in the text, using Arabic numerals, preceded by the word "Table." All tables should bear appropriate headings.

**Figures.** Identify each drawing, illustration, chart, or graph consecutively by using Arabic numerals preceded by the word "Figure." Citations or captions must be provided with each figure.

Submit figures and tables as original black-ink drawings, negatives, or glossy prints only, ready for reproduction. Include reference copies with duplicate manuscript. Lettering should be uniform and large enough to be legible after reduction of up to 50 percent.

**Letters to the Editor.** Brief letters commenting on published articles are invited, with the understanding that they may be edited and published. Comments on published articles are forwarded to the author for reply at the discretion of the author.