

## **Beyond Boyer: The UniSCOPE Model of Scholarship for the 21st Century**

*Drew Hyman, Elise Gurgevich  
Theodore Alter, John Ayers, Erskine Cash  
Donald Fahnlne, David Gold, Robert Herrmann  
Peter Jurs, David Roth, John Swisher  
M. Susie Whittington, Helen Wright*

### **ABSTRACT**

The current system for recognizing and rewarding faculty scholarship shows preference for rewarding basic research and teaching over other forms of scholarship. Faculty and adminis-

At the same time, the current system for recognizing and rewarding faculty scholarship is characterized by an academic culture that shows preference for rewarding basic research and resident teaching over other forms of scholarship. This creates a challenge to the academy as we move into the twenty-first century. We believe that many faculty and administrators need to develop a creative

understanding of other forms of scholarship and how they can be effectively integrated into the promotion and tenure process. Others need to expand their perspective to recognize the value of outreach scholarship to the academy and to society. If the academy is to continue to provide intellectual and professional leadership, the faculty must have a clearer understanding of the value of outreach as scholarship. Academic scholarship must be understood broadly enough to

adequately address the needs of the professions and public. Criteria and methods of evaluation must be defined to recognize and reward all forms of scholarship equitably.

The importance of addressing these issues is well documented. The reports of the Kellogg Commission on the Future of State and Land-Grant Universities (1999) and the Carnegie Foundation for the Advancement of Teaching (Boyer 1990) are two of the most notable works in this regard. The Kellogg Commission report, *Returning*

Themes for addressing unresponsiveness highlighted in the commission's report include the need for a clear commitment to engagement, strong support for infusing engagement into the mission of the institution, diversity and creativity in approaches and efforts, leadership and funding as necessary elements, and accountability "lodged in the right place."

The Carnegie Foundation report, *Scholarship Reconsidered: Priorities of the Professoriate*, also addresses the issue directly:

What's really being called into question is the reward system and the key issue is this: what activities of the professoriate are most highly prized? . . . Ultimately, in the current scheme of things, the nation loses, too. At no time in our history has the need been greater for connecting the work of the academy to the social and environmental challenges beyond the campus. And yet, the rich diversity and potential of American higher education cannot be fully realized if campus missions are too narrowly defined or if the faculty reward system is inappropriately restricted. It seems clear that while research is crucial, we need a renewed commitment to service, too. . . . It's time to recognize the full range of faculty talent and the great diversity of functions higher education must perform (*Boyer 1990, xi, xii*).

### What is the UniSCOPE Learning Community?

On March 24, 1998, a small group of faculty and administrators at the Pennsylvania State University formed a learning community to engage in a deliberative dialogue about recognizing and documenting outreach scholarship in the university. We chose UniSCOPE, University Scholarship and Criteria for Outreach and Performance Evaluation, as a title to encapsulate our mission. Our goal was to consider the meaning of scholarship in the contemporary academy and to consider the role of outreach therein. We did this in the context of the Penn State promotion and tenure system to gain a better understanding of its effect on scholarship. We quickly learned that outreach scholarship cannot be examined in isolation, and we broadened our deliberations to consider the full range of scholarship. This article articulates the main concepts of UniSCOPE as a multidimensional model of scholarship that emerged two years later, of which outreach scholarship is a key component. We also discuss our recommendations for action.

Several works pointed the way and established a fertile atmosphere for our inquiry: in particular, the Kellogg Commission report, *Returning to Our Roots: The Engaged Institution* (1999), and the Carnegie Foundation report, *Scholarship Reconsidered: Priorities of the Professoriate* (Boyer 1990). We also drew upon reports and documents from other universities including Michigan State University, *A Guidebook for Planning & Evaluating Quality Outreach* (1996); University of Wisconsin, *Commitment to the Wisconsin Idea: A Guide to Documenting and Evaluating Excellence in Outreach Scholarship* (1997); University of Oregon, *A Faculty Guide to Promotion and Tenure at the University of Oregon* (1994); and Portland State University, *Promotion and Tenure Guidelines* (1999). Penn State reports reviewed include early drafts of the report of the University Faculty Senate Committee on Outreach Activities, *Engaging Tenured Faculty in Outreach Activities* (1999); and *Making Life Better: An Outreach Inventory of Programs and Services* (1998).

### What are the premises on which UniSCOPE is based?

A key premise of the UniSCOPE challenge is that all forms of scholarship should be recognized equitably. A corollary is that each form of scholarship—teaching, research, and service—should be recognized for its primary product. That is, if resident education is recognized as a valued product, then extension and continuing education should receive equivalent recognition. If basic research is

---

*“A key premise of the UniSCOPE challenge is that all forms of scholarship should be recognized equitably.”*

---

recognized for contributions to knowledge through refereed publications whether or not its insights are applied in the field, then applied research should be recognized for applications in the field whether or not insights from the experience are extended to the literature. This is not to suggest that lessons from applications should not be commu-

nicated in the literature and theoretical insights ought not to be tested in the field. The issue is that while the logical extensions of scholarship should be encouraged, each type of scholarship should be recognized mainly for its own inherent contribution. The following sections summarize UniSCOPE and present models of teaching, research, and service scholarship that we believe provide a framework for significant steps toward meeting the UniSCOPE challenge.

Scholarship is defined as the thoughtful discovery, transmission, and application of knowledge. Academic scholarship is thus a term of the academy; similar activities in the community may go by other names. In this context, scholarship is rooted in the ideas and methods of recognized disciplines, professions, and interdisciplinary fields. Scholarship is informed by current knowledge in the field and is characterized by creativity and openness to new information, debate, and criticism. For scholarly activity to be recognized, utilized, and rewarded, it must be shared with others in appropriate ways.

Publication in scholarly journals or by respected presses, presentation at professional forums, and resident education are contemporary means for disseminating the results of scholarship in the academic disciplines and professions. The creation of applications in the field, active presentation of original works, utilization in practice settings, impacts in public policy, appearance of results in the media, seminars and workshops, electronic publication, technical assistance, and technology transfer are similarly important aspects of scholarship that bring the expertise of scholars to societal





Each of the three forms of scholarship (teaching, research, and service) can be seen to perform all four functions (discovery, integration, application, and education). We see the relationship of the forms and functions as follows.

The mission of teaching is to instruct. In so doing, it needs to carry out education, integration, application, and discovery functions. Teaching is also a form of scholarship in the UniSCOPE model and has the manifest objective of imparting knowledge or skills to the learner and thus carrying out the education function of enlightening others. Teaching others how to use knowledge to solve problems carries out the application function. And to do so we often need to integrate material from different fields or subfields and/or to incorporate new discoveries. Finally, the process of teaching often leads to new insights and thus has a discovery function. All four functions may be manifest through teaching as a form of scholarship.



Boyer seems to imply a similar conclusion. “The arrow of causality can, and frequently does, point in both directions. Theory surely leads to practice. But practice also leads to theory. And teaching, at its best, shapes both research and practice.” (Boyer 1990, 15–16).

Figure 1 depicts a dynamic view of the four functions of schol-

We think the main contribution of the UniSCOPE model emerges when we look at how the three forms and four functions interrelate. The intersections of forms and functions create a logical framework for classifying the traditional and familiar types of scholarship activities. Table 1 is a three-by-four table with the three forms of scholarship on the left axis and the four functions at the top. The cells of the table illustrate how the interaction of form and function creates a framework in which we can locate the full range of scholarship activities. These intersections of form and function create what we refer to as the *types* of scholarship in the UniSCOPE model.

For example, the intersection of research and discovery is what we typically call basic research and innovative creative works. Evaluation research is also a discovery activity. Similarly, the intersection of research and integration includes multidisciplinary and integrative research. The intersection of research and application includes applied and policy research, demonstrations, performances of original works, and technical assistance. Finally, research has an educational function in student laboratories, studio courses, and thesis and dissertation research, all of which use research activities to educate students about fundamental principles and concepts.

The intersection of service and discovery is manifest through faculty participation in problem-solving task forces, think tanks, and similar activities that require the creative use of faculty expertise in problem-solving situations. Service also carries out the discovery function when participation and observation during service activities lead to creative, theoretical, or conceptual insights. Service requiring integration across disciplines can be manifest in academic governance and assistance to corporations, government, and communities. Service applications include leadership in professional societies, peer-review activities, and editorship of journals and professional publications. Service applications also extend to assistance in one's field to groups, corporations, organizations, government, and communities. Finally, service carries out the education function in student advising and career counseling, advising student activities and organizations, and mentoring students. Service education is also inherent in internships and service-learning activities. Finally, expert testimony and consultation, in which the faculty member is transmitting knowledge derived from other forms of scholarship to government, corporations, and community organizations, is an educational service.

The intersection of teaching and the four functions also creates familiar academic activities. Types of teaching involving discovery include course innovation, course improvement, conceptual “ah-ha



on discovery research characteristics. Therefore, the types of scholarship identified in the cells of Table 1 are only some of those that can be seen to exist. Thus, we find it appropriate to conceptualize the types of scholarship as having an infinite set of gradations, as a series of continua.

Most accurately, there is a continuum in each of the three forms of scholarship: teaching, research, and service. Moreover, the *media* for communication and transmission of scholarship and the *audiences* for dissemination are also conceived as continua in the UniSCOPE model. The complete UniSCOPE model is thus based on five dimensions of scholarship:

- The *forms* of scholarship: teaching, research, and service
- The *functions* of scholarship: discovery, integration, application, and education
- The *types* of scholarly teaching, research, and service
- The *media* for delivery of scholarship
- The *audiences* or clients of scholarship.

When taken together, these five dimensions create the UniSCOPE multidimensional model of scholarship. These five dimensions of scholarship are also each conceptualized as a continuum. The following sections show how these dimensions create the multidimensional UniSCOPE model of teaching, research, and service scholarship, and in turn, a framework for documenting the full range of teaching scholarship.

### What is teaching scholarship in the UniSCOPE model?

We conceptualize the *types* teaching scholarship as a continuum from pure academic teaching through variations of what are typically called outreach teaching. We consider the types of teaching scholarship to include theoretical, technical, clinical, professional, special, and general pedagogy. The *media for delivery* of teaching scholarship may be manifest in formal, residential courses directed primarily to teaching theories, concepts, and practices of a field, profession, or discipline. Teaching scholarship may also be manifest in teaching that extends scholarship to off-campus or nontraditional audiences. Teaching scholarship includes use of instructional technologies and creates access for people at a distance to the resources of the University. The media for delivery may include resident education, distance and extension education, professional conferences, technical workshops and seminars, exhibits, performances, addresses,

**Figure 2. UniSCOPE Model of Teaching Scholarship**

\*\*\*

speeches, and public broadcast media. Various *audiences for, or clients of, teaching scholarship* include undergraduate students, graduate students, postgraduates, professionals in the field, certificate students, special interest groups, and the general public. Scholarly teaching may thus be conceived as a multidimensional model of teaching activities.

Figure 2 combines the three continua of teaching scholarship and shows the interrelationship of these three dimensions. On the left end of the model is the teaching of basic concepts and derivations of education theories predominantly researched within the academy. The middle of the continuum recognizes the technical, clinical, and professional education that is essential to the academy. On the right are special and general types of teaching scholarship. The figure also shows the various *media* for dissemination and the several *audiences* or clients for teaching scholarship. This multidimensional model ranges from resident to external audiences, from discovery of theory to public interest education, and from written articles to public addresses. The intersection of the three dimensions of teaching scholarship can be seen as a scholarship event or academic activity that can be documented and evaluated.

The “mix and match” features of the UniSCOPE model are apparent. For example, teaching of theoretical concepts can be delivered as part of a resident education curriculum to undergraduate students. That same theoretical material could also be delivered through extension education or technical workshops to professionals in the field or certificate students. Many other combinations are also possible. We believe this model has the essential

concepts for developing a comprehensive, fair, and equitable approach to recognizing and rewarding the full range of teaching scholarship.

**What is research or creative accomplishment and scholarship?**

or clients of, research scholarship include colleagues and professionals in the disciplines, journal subscribers, professional and scholarly organizations, corporations and communities, government agencies, and other users of research scholarship.

Figure 3 combines the three continua of research scholarship, and shows the interrelationship of these three aspects. On the left end of the model, research scholarship includes discovery research, which provides for the identification and testing of new and basic concepts and theories, their assimilation and synthesis in a discipline or across disciplines, and academic creativity that involves the creation of new and original works. The middle of the continuum recognizes integration and applications of knowledge and the demonstration and evaluation of new and innovative applications in the field. On the right are types of scholarship that interpret research findings to academic and nonacademic audiences through such activities as technology transfer, technical assistance, demonstration projects, performances, and evaluation of ongoing programs. The intersection of the three dimensions of research scholarship can be seen as a scholarship event or academic activity that can be documented and evaluated.

The “mix and match” features of the UniSCOPE model are also apparent here. For example, the results of basic research can be published in refereed journals for colleagues and professionals. That same information can also be used for creating applications through grants and contracts for corporations, communities, or government agencies. Many other combinations are also possible. We believe this model has the essential concepts for developing a comprehensive, fair, and equitable approach to recognizing and rewarding the full range of research scholarship.

**Figure 3. UniSCOPE Model of Research Scholarship**







distinguished from research in that the objective of doing is distinguished from the objectives of creating or testing new applications in the field or learning about what is being done. Like the other forms, service scholarship has several types, has a range of media for delivery, and has several audiences.

The types of service scholarship may be manifest in student advising, academic governance and decision making, academic administration, leadership in professional societies, assisting corporations and communities, and consulting based on the scholarly expertise of the faculty member. We consider the types of service scholarship to include advising, academic governance and administration, leadership in professional associations and societies,

Figure 4. UniSCOPE Model of Service Scholarship

\*\*\*

assisting corporations and communities, and consulting in the field of expertise of a faculty member. The media for delivery of service scholarship include one-on-one assistance to organizations, task force participation, committee work, public meetings, and group or public presentations. As with the other forms of scholarship, faculty service is scholarship inherent in the application of appropriate expertise to an issue or problem and not because of the means by which it is delivered. The audiences or clients for service scholarship include individual students, colleagues, and members of the public; service may be performed through work with groups and organizations, as well as governments and communities. Audiences also include resident and nonresident students, colleagues and organizations in the various disciplines and professions, academic departments, colleges, and other units of the university, as well as governments, corporations, private and nonprofit organizations, and communities.



### What about the “fuzzy boundaries” of some forms of academic scholarship?

Many examples of academic activity simultaneously provide one or more of the three forms of scholarship. In other cases, the form of scholarship may be relative to the audience and purpose of

and the audiences for scholarship can each be seen as a continuum. These five dimensions are used to create a multidimensional model of scholarship.

This conceptualization of scholarship as a multidimensional model with continua in all three missions provides a framework for recognizing and rewarding all types of scholarship. We also recognize that establishing specific criteria for the documentation of scholarship is a faculty prerogative that should recognize the similarities and differences of the various academic disciplines and professional fields. It is our belief that the collegiality, dedication, and creativity of faculty will allow a culture to emerge that acknowledges and rewards all forms of scholarship.

President Graham Spanier of the Pennsylvania State University posits the goal as providing leadership in the integration of teaching, research, and service.

This model centers on the integration of our missions, the rapid deployment of our resources, collaboration across disciplines and delivery units and partnerships with a wide variety of public and private organizations. Fused with a number of program priorities in areas that impact greatly on the quality of life—areas such as information science and technology; children, youth, and families; the life sciences; materials science; and environmental concerns—our model will make a significant contribution to the Commonwealth’s economic and community development and make life better for Pennsylvanians. (*Spanier 1998*)

In conclusion, the UniSCOPE learning community challenges our colleagues and the administration to implement a model of scholarship for the twenty-first century that equitably recognizes the full range of teaching, research, and service scholarship. We offer the multidimensional UniSCOPE model as a foundation on which the scholars of all disciplines and professions can build a structure for identifying, recognizing, and rewarding the specific types of scholarship that apply in their fields. Our recommendations are a challenge to the academic community to apply its individual and collective creativity and expertise to refine and implement the UniSCOPE model. We believe the result will be the emergence of a more fair and equitable system for documenting, recognizing, and rewarding the full range of scholarship in the twenty-first century. In this way, the academy will engage society in making life better.

## References

- Barrett, Katherine J., Edward Bartlett, Elizabeth Ann R. Bird, Leonard S. Bull, Lorna Michael Butler, Dennis R. Keeney, Richard M. Klemme, Laura L. Lengnick, J. Patrick Madden, and Carolyn Raffensperger. 1998. *Incentives and barriers to public interest centers to pu98.*

- Spanier, Graham B. 1998. A message from the president. In *Making Life Better: An Outreach Inventory of Programs and Services*. 1998 ed. p. 3. University Park, Pa.: Pennsylvania State University.
- Sullivan, William M. n.d. *The university as citizen: Institutional identity and social responsibility*. Washington, D.C.: Council on Public Policy Education.
- University of Oregon. 1994. *A faculty guide to promotion and tenure at the University of Oregon*. Eugene: University of Oregon.
- University of Wisconsin. 1997. *Commitment to the Wisconsin idea: A guide to documenting and evaluating excellence in outreach scholarship*. Madison, Wis.: Council on Outreach.

### About the Authors

- Drew Hyman is professor of public policy and community systems in the Department of Agricultural Economics and Rural Sociology, the Pennsylvania State University. His work at Penn

Bridle Club, the student affiliate of ASAS. He holds memberships in ASAS, ARPAS, CAST, and Gamma Sigma Delta.

- Donald E. Fahnlne is Associate Professor of Physics at the Altoona College of the Pennsylvania State University. He received his Ph.D. in physics from the Pennsylvania State University. He has served as chair of the Faculty Rights and Responsibilities Committee of the university and has received the Christian R. and Mary F. Lindback Award for distinguished undergraduate teaching.

- David P. Gold is professor emeritus of geology at the Pennsylvania State University. He chaired the geology graduate program from 1977–82. From 1966 to 1997, Dr. Gold coordinated and directed the geosciences Summer Field Program, traveling to Montana, Utah, and Wyoming. He is a recipient of the Matthew J. and Anne C. Wilson Outstanding Undergraduate Teaching Award.

- Robert Herrmann is professor emeritus of agricultural economics at Penn State. His research focuses on factors affecting consumers' food choices. Recently his work has focused on the effects of food safety and nutritional concerns on food behaviors. This research has been coupled with methodological work investigating alternative approaches to measuring consumer concern. He is a distinguished fellow of the American Council on Consumer Interests, and is past editor of its *Journal of Consumer Affairs*.

- Peter Jurs is professor of chemistry at Penn State University. He received his B.S. from Stanford University and his Ph.D. from the University of Washington, Seattle. His research involves computer applications in chemistry; studies of relationships between molecular structure and chemical properties; applications of computational methods including pattern recognition and neural networks and multivariate statistics to analytical data interpretation.

- David E. Roth, B.A.E., M.A.E., P.E., is associate professor of engineering at the Pennsylvania State University, the Behrend College, since 1976. He previously worked as a consulting structural engineer, and has consulted in many aspects of building structure and construction over the last twenty-five years.

- John Swisher is the former acting associate dean for outreach and head of counselor education, counseling psychology, and rehabilitation services in the College of Education. His research focuses on the evaluation of substance abuse prevention programs in applied settings, and his teaching includes medical information for counselors and substance abuse. He established a graduate program in chemical dependency counseling that was offered at



nearly all of Penn State's campuses and enrolled approximately 1000 students per year.

- M. Susie Whittington is associate professor of human and community resource development in the College of Food, Agri-