

The article suggests a conceptual framework for the creation of knowledge as a basis for an expanded, more inclusive view of scholarship. Knowledge flows along many directions and is created in many different ways. Wherever this happens, scholarship can exist. The article suggests a formulation for the common characteristics of all scholarship, and for a set of common criteria by which it can be assessed. It also describes the documentation needed for proper evaluation

Knowledge and Scholarship

The Flow of Knowledge

In his well known book *The Higher Education System*, published by the University of California Press in 1983, Burton Clark states that

“For as long as higher education has been formally organized, it has been a social structure for the control of advanced knowledge and technique. In varying combinations of the efforts to discover, conserve, refine, transmit, and apply it, the manipulation of knowledge is what we find in common in the many specific activities of professors and teachers” (p. 11).

The advancement of knowledge is indeed the central concern of higher education, and it is, as well, the defining activity of the scholarly profession. Scholarship can exist wherever and whenever knowledge is systematically pursued, enhanced, and communicated, be it through research, teaching, or professional service. Why, then, does research dominate the academic value system?

There are historical reasons for this, as Sandra Elman and I suggested in our book, *New Priorities for the University* (1987). After World War II, the federal government provided vast sums for the support of basic research in universities. This had a marked effect on the measures of prestige for both institutions and individuals. But the current primacy of research in the academic value system is also fostered by the persistent misconception of a uni-directional flow of knowledge, from the locus of research to the place of application, from scholar to practitioner, teacher to student, expert to client. Such a linear process is strongly implied, maybe unintentionally, in Clark’s formulation, which lists discovery, conservation, refinement, transmission, and application of knowledge as if they were sequential.

A linear view of knowledge flow inevitably creates a hierarchy of values according to which research is the most important, and all other knowledge-based activities are derivative and secondary. Teaching, according to this view, constitutes no more than the transmission of a codified body of knowledge; professional service only its application.

Neither is central to the advancement of knowledge. In a background paper announcing the creation by the American Association for Higher Education (AAHE) of the Forum on Faculty Roles and Rewards, Russ Edgerton points out that a linear model shapes "the prevailing views about what 'real' scholarship is all about; views that rest on conceptions of what *kinds* of knowledge are most worth possessing. Within the reigning paradigm of scientific inquiry, knowledge codified in the form of general scientific principles is supreme; the knowing that is entailed in communicating and representing ideas has lesser value. The kind of 'situational knowledge' that distinguishes expert practitioners from ordinary practitioners is hardly recognized at all" (1992). In *The Reflective Practitioner*, Donald Schon describes how the same linear hierarchy dominates — and distorts — so much of professional education, forcing its curriculum into the sequence from basic to applied science, and then only to applications and clinical practice (1983).

But, as Ernest Boyer emphasizes in *Scholarship Reconsidered*, knowledge is not necessarily developed in such a linear manner (1990, p. 15). It is not an inert commodity, created in laboratory, library, or study, to be stored in libraries like the gold in Fort Knox, or dispensed like a patent medicine in classrooms or a consulting office. It is dynamic, constantly made fresh and given new shape by its interaction with immediate issues and concerns. It emerges when a number of disciplines are brought together in the analysis of a complex problem in a scholarly manner. A scholarly textbook or review article not only increases the knowledge of the readers, but in its creation enhances the insight and understanding of the author. And, all scholarly teaching and application constitute learning both for the scholar as well as for the client and student. The learning of the scholar arises out of his or her reflection on the situation-specific aspects of the activity, and on the details of the transformational process by which students, clients, and readers are helped to understand and to utilize knowledge.

The Eco-system of Knowledge

In short, the domain of knowledge has no one-way streets. Knowledge does not move only from the locus of research to the place of application, from scholar to practitioner, teacher to student, expert to client. It is everywhere fed back, constantly enhanced. We need to think of knowledge in an ecological fashion, recognizing the complex, multi-faceted and multiply connected system by means of which discovery, aggregation, synthesis, dissemination, and application are all interconnected and interacting in a wide variety of ways. In parts of the system, new information is gathered in laboratory and library, by survey and observation. Elsewhere, data are analyzed and interpreted, aggregated and integrated, taught and applied — and those processes themselves yield new information, new understanding, new insights, and hence new knowledge. They relate to one another, they overlap, they are usually not clearly separable. There is no clear demarcation between creation and integration, teaching and application.

Knowledge moves through this system in many directions. There is constant feedback, with new questions as well as new insights generated all along the way, triggering new explorations and new syntheses. Nor is the process linear. The ecological system of knowledge is complex and multi-dimensional, often messy and confusing, with many modes of feedback and many cross connections. And, at every point of this multiply connected system there is learning and enhanced understanding, resulting in expanded knowledge. The process operates on many different levels and at various scales. Occasionally a path-breaking set of observations or an

innovative approach to application or instruction can lead to a quantum jump of understanding, with fundamental implications that reverberate throughout the entire system. More often knowledge is added in small increments or on a local scale, in instances of teaching or application, research or integration bounded by the specific conditions of time and place. Even then there are likely to be some inferences, some generalizations which can ripple through other portions of the knowledge eco-system.

The concept of an eco-system of knowledge is not just a convenient metaphor. It has profound implications for faculty roles because the system of knowledge is the *territory of scholarship*. Wherever knowledge emerges, scholarship can exist. Any intellectual activity in every part of the system that results in true learning, in added understanding, in an increase in knowledge — as distinct from a mere accretion of facts and figures — is scholarship in action. And all of these activities are of great societal importance. As Boyer has stated:

“[T]he time has come to . . . give the familiar and honorable term ‘scholarship’ a broader, more capacious meaning, one that brings legitimacy to the full scope of academic work. . . [and includes] the scholarship of *discovery*; the scholarship of *integration*; the scholarship of *application*, and the scholarship of *teaching*” (op. cit., p. 16).

Viewing scholarship as professional activity in the interconnected and interdependent eco-system of knowledge underscores that, as Boyer emphasizes, the four kinds of scholarship he lists are indeed

“intellectual functions that are tied inseparably to each other [and that]. . . dynamically interact, forming an interdependent whole” (op. cit. p. 25).

All forms of scholarship, if carried out at equal levels of excellence, should thus be viewed as comparable in importance and in legitimacy.

The converse holds as well: the integration, teaching, and application of knowledge — and indeed also the creation of knowledge — should all be held to the same high measures of quality. Insisting on this is important because just stretching the definition of scholarship to cover more categories of faculty activity can be attacked as a dilution of standards. It is essential to demonstrate that all forms of scholarship pose intellectual challenges of a similar nature, and that they can be held accountable across the board to standards of excellence of equal rigor. What appear at first sight to be quite different activities must be shown to have substantial commonalities, which make it possible to compare the intellectual challenge of the effort.

Common Characteristics of Scholarly Work

What are these commonalities? Are there general statements which can be made about the nature of the scholarly profession, and about what constitutes quality in scholarly work? Is it possible to generate a working definition by which scholarship can be recognized in whatever form it occurs?

To date we have had difficulty in applying a consistent definition and set of standards to the full range of potential scholarly work because we have tended to look primarily at the concrete *outcomes* of a professional activity rather than to consider as well the intellectual *process* by which these came about. We always ask *what* did you do? Dossiers used in appointments, promotion, and tenure review usually include items such as publications, text books, course syllabi, and consulting reports: the outcomes as well as what has been called the “artifacts” of scholarship. But the dossiers rarely contain the reasons *why* the individual undertook a course of action in a particular way. Yet in order to appreciate and understand

scholarly activity adequately, and to evaluate its quality, one needs to have as much information as possible about what went on in the scholar's mind as he or she approached a task, analyzed it and decided on an approach, observed and reflected on its progress, and drew inferences from its outcomes. The attributes which research, teaching, the integration of knowledge, and its application all have in common emerge very clearly when, instead of focusing only on outcomes, one also explores the *intellectual process* and asks questions about the thinking behind the activity. Outcomes must be viewed within the framework of the reasoning which created them, the *what* in the context of the *why*. *Why* was the activity undertaken? *Why* was it carried out in a particular manner? *Why* was a particular research topic or course outline chosen, and why the specific method? What was the activity trying to accomplish? *Why* choose the particular strategy to accomplish it? Were there other possible choices?

The individual's approach to a professional activity is what most clearly distinguishes scholarly work. The scholar does not carry out a recurrent task according to a prescribed protocol, applying standard methodologies. Rote and routine are antithetical to scholarship. What unifies the activities of a scholar, be he or she engaged in teaching, research, or professional service, is an approach to each task as a novel situation, a voyage of exploration into the partially unknown. Along this voyage, the scholar defines the new problem, sets a goal, chooses the most appropriate approach, monitors the ongoing process, making corrections as necessary, assesses the outcome, draws appropriate inferences and, where possible, verifies and then shares what he or she has learned. This intellectual process most readily characterizes scholarly work. It is substantially identical for all its forms, be it teaching or application, writing a text or carrying out research. To recognize and to evaluate scholarship, one must be able to accompany the scholar on the voyage.

What then does one look for in order to recognize this scholarly way of thinking, and to assess its quality in an effective and workable way? No unique formulation exists. It is very desirable for individual colleges and universities to work out their own articulation of the scholarly process in order to foster institutional acceptance and sense of ownership. As an example rather than as a blue print, we suggest the following four universal attributes as a way of describing what is common to the process of all scholarly work: **reasoning, reflection, learning, and dissemination**. These attributes are neither sequential nor distinct. They overlap, they intermingle, they are not fully separable. They are individually listed here because, like the fourfold aspects of scholarship suggested in *Scholarship Reconsidered*, each provides a helpful perspective on the nature of scholarship.

(1) Scholarship is a **reasoned process**. Based on her or his subject matter expertise, as well as understanding of the context and of the audience, the scholar makes conscious and deliberate choices of the desired goals, and then selects the optimal method and resources most likely to achieve the outcomes.

(2) Scholarship is a **reflective process**. The scholar, like all good professionals, is in Schon's words "open to the backtalk of the situation," (op. cit. , p. 269) reflecting on what is happening throughout the process, recognizing and responding to the unique and unexpected elements of each situation, and, as well, analyzing outcomes.

(3) Scholarship is therefore also a **learning process** not only for the audience to which the activity is directed, but also for the scholar who draws generalizable inferences and thus derives new insights, which inform future iterations of the process. The new knowledge thus created can be such as to further an academic disci-

pline, and it can also lead to improved methodology of how knowledge can best be taught, applied, or otherwise disseminated.

(4) All scholarship must include an element of **dissemination** through which what is learned by the scholar is shared with others both for verification as well as to enhance general knowledge.

Criteria to Evaluate Scholarship

These characteristics are common to basic and applied research, to direct instruction, to the development of educational materials, and to all forms of professional outreach. They separate that which is in some measure fresh and innovative from that which is routine and repetitive. They suggest a set of **criteria** by which the quality of scholarly work can be evaluated. The criteria, like the characteristics, can be formulated in a variety of ways, of which the following is an example, neither unique nor necessarily complete:

- the **expertise** informing the scholarly process, as demonstrated by the adequacy of preparation as well as by appropriateness of the choices made by the scholar;
- the **originality** and degree of **innovation** manifest in the activity;
- the **difficulty** of the task to be accomplished;
- its **scope and importance**;
- the **effectiveness** and **impact** of the activity.

The Documentation of Scholarship

The defining characteristics of scholarship and the kinds of criteria used to evaluate it suggest the nature of the necessary **documentation** of scholarship. The academic world, quite properly, takes seriously only what it can evaluate — and evaluates only what it can document. Hence *all* dimensions of scholarly work must be documented and evaluated to ensure true multidimensional excellence. The similarity of the intellectual process and the ability to apply similar criteria allows a common approach for all dimensions of scholarship.

The necessary documentation falls into two categories. The first must provide the following:

- **descriptions** of *what* was done and *how*, including information about the context and the conditions at the time of the work, how it was carried out, and what the outcomes were;
- **explanations** of *why* specific goals as well as method and resources were chosen, and resulting conclusions drawn;
- **evaluations** of the quality and significance of both the process and product of the work by the individual doing the work, by those intended to benefit from it, and by others qualified to judge it.

Most of the descriptive and explanatory documentation must be provided by the individual. It should of course include the usual “products” and “artifacts” such as published papers, books, reports, course syllabi, and the like. But these items are not sufficient. If each scholarly activity is, in some sense, a voyage of exploration and discovery, it can be fully appreciated and evaluated only if one can follow the scholar on that journey. Hence the dossier must also include a **descriptive and reflective essay** which describes and explains the following:

- the specifics of the situation, in terms of the nature of the intended audience,

and the context in which the activity took place;

- the state of pertinent knowledge;
- the objective of the activity;
- the choice of method and resources used in carrying out the activity, following its progress, and assessing its outcomes;
- the results of “reflection-in-action” in terms of unique and unexpected features encountered, adaptations made, inferences drawn, and lessons learned by the scholar;
- a self-assessment of the perceived outcomes and their implications.

This descriptive and explanatory material must be validated by **evaluative** documentation for which there exist, broadly speaking, three sources, in addition to the self-assessment contained in the individual’s reflective essay:

- the **primary audience** that constituted the direct target of the activity: fellow specialists for research, students for teaching, the staff of client organizations for professional service. These individuals can comment on matters such as preparation, presentation, and pertinence;
- the **clients or sponsors** of the activity, such as the funding agency of research, departmental colleagues and academic administrators for teaching, or the executives of organizations receiving professional service. They can evaluate the extent to which the work has met intended goals and needs;
- **pertinent experts** in the subject matter and/or the methodology of the activity, who are able to evaluate the work in terms of the norms of the pertinent field and who can speak to the significance of the outcomes.

There clearly exists some overlap among these categories. The documentation should include evaluations from these sources, solicited and gathered by those who are charged with the review of the individual’s scholarship. It is important that the solicitation be explicit with regard to the information sought, and that it describe the standards by which the work will be assessed.

Distinct Projects as Units of Analysis

The first of the AAHE publications describing the use of portfolios for the documentation of teaching emphasizes that “good teaching [is] highly situational. . . [T]he more complex examples of good teaching would best be revealed by looking at *discrete examples of actual work*” (op. cit. , p. 9). That applies as well to other dimensions of faculty scholarship: their quality can be best demonstrated by looking at distinct projects, with goals that can be defined, processes that can be described, and outcomes that can be identified. The criteria by which scholarship can be evaluated are project-oriented and can only be applied to work that has a clear purpose, identifiable method, and demonstrable outcomes. Hence distinct projects provide the primary measure of a scholar’s work within the context of the individual’s activities over time.

Choosing a distinct project as a unit of analysis also provides a way of distinguishing between ongoing conscientious but repetitive activities, on the one hand, and instances of significantly creative work, on the other. All aspects of faculty work, be it research, teaching, or professional service, of necessity include much of the former which, in spite of its value, does not fully meet the standards of scholarship.

To focus on distinct projects is particularly important with regard to professional service because of a tendency to throw together all the odds and ends that can be grouped under the category of professional service with more substantive projects.

To do so can trivialize the entire category of professional outreach and hide its potential intellectual challenge and scholarly nature. One needs to make a much clearer distinction between the minor professional outreach activities in which a faculty member may be engaged, and specific, more substantive projects which can serve as principal units of analysis for faculty evaluation. For example, as part of collaboration between a university and a school system, faculty members often make themselves available to their school-based colleagues for consultation and discussion. Such ongoing interaction is important and should be recognized as part of an individual's workload if it takes a substantial amount of time. But it is not, by itself, the stuff of scholarship. There is no way of documenting and hence of evaluating the intellectual challenge and hence the scholarly nature of such work unless it is an integral part of a joint project leading to identifiable results. The same difficulty exists in other kinds of professional service. Brief consultations or occasional public lectures are in-and-out activities that are difficult to document and evaluate. The documentation of professional service should focus on substantial projects which have a well defined objective and identifiable outcomes, and a process which can be described. That can occur, for example, when one or more faculty members work with their school-based colleagues in substantive projects such as the redesign of the middle school science curriculum, when an economist undertakes an analysis of tax policies for a state government, when a chemical engineer assists in the design of a processing plant, or a management expert designs a new organization for a public or private enterprise. It is only within the framework of such distinct units of analysis that the standards of scholarship can be systematically applied.

Examples of Best Work

Full documentation should be provided only for **examples of best work** selected by the faculty member. To do so is important for practical reasons, because to provide such information for every piece of research, every course taught, every outreach activity is clearly much too time consuming both for the individual as well as for the reviewers.

An even more significant consequence of a selective dossier is that it shifts the emphasis from **quantity to quality**. Former President Kennedy of Stanford University has been eloquent in making the case for a selective approach to evaluation. In his 1991 Essay to the Stanford Faculty, he came out very strongly against "the quantitative use of research output as a criterion for appointment and promotion," calling this "a bankrupt idea." Expanding on his complaint about "the overproduction of routine scholarship," he cites "studies demonstrating that in many fields the majority of published papers are never cited." Kennedy states that "[t]he major learned societies. . . base election to membership on the consideration of an author's most important publication, not on his or her total production." He recommends that in order "to reverse the appalling belief that counting and weighing are important parts of evaluation . . . Stanford should limit the number of publications that can be considered in appointment and promotion" (1991).

The belief which he cites is widely held: The 1989 Carnegie Foundation National Survey of Faculty, as reported in the March/April 1991 issue of *Change*, found that even among the most published faculty, defined as those having 11 or more articles printed in journals, approximately one half or more of those surveyed believed that at their institution, "publications used for tenure and promotion are just 'counted,' not qualitatively measured." According to the same survey, a substantial majority of the most published faculty, with numbers ranging from 77 per-

cent of the biological scientists to 92 percent of the engineers, thought that at their institution “we need better ways, besides publication, to evaluate the scholarly performance of the faculty.”

The Distinctiveness of the Scholarly Profession

Faculty members belong to and practice the scholarly profession, and have much in common with practitioners of all professions. And the more we understand and appreciate, thanks to the work of Schon and others, the complexity, the intellectual challenge, and indeed also the artistry of effective professional practice, the greater the pride we can take in being members of a profession striving to be optimally effective in its practice.

It is, therefore, neither surprising nor inappropriate that much of what has been described as basic attributes of scholarly work pertains, as well, to the proper practice of other professions. Reasoning and reflection characterizes the effective practitioner in many fields, and, similarly, are likely to lead to learning.

Yet, at the same time, scholarship is a unique profession, distinguished by its central dedication to the advancement of knowledge. Knowledge is a central and essential element of all professions, but only scholarship is dedicated solely to its advancement. Furthermore, a scholar also has an obligation to share with others the new knowledge which has been created in the course of a scholarly activity. In no other profession does the dissemination of knowledge play as central a role as it does in scholarship. Indeed, an identification of teaching in its broadest sense with scholarship comes closer to being a valid description than the more prevalent identification of research with scholarship. Thus the profession of scholarship occupies a very special role in the range of intellectual activities, just as colleges and universities have a unique mission among the many kinds of knowledge-related societal institutions.

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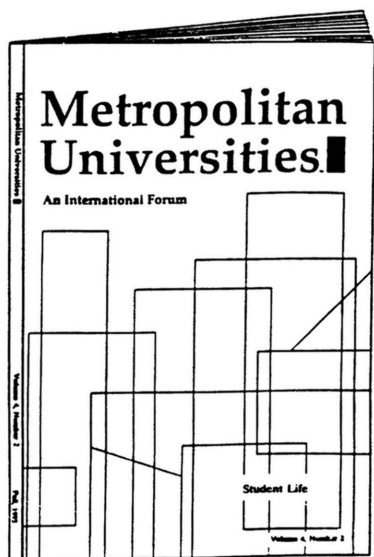
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