

Introduction

IN HIS INFLUENTIAL BOOK, *Scholarship Reconsidered: Priorities of the Professoriate*, Boyer (1990) proposes that the definition of scholarship be broadened beyond the predominant emphasis on the scholarship of discovery to encompass the scholarship of integration, the scholarship of application, and the scholarship of teaching. Boyer's formulations have sparked considerable scholarly attention, the bulk of it focusing on clarifying the meaning of the domains of scholarship (e.g., Johnston, 1998; Lynton, 1995; Kreber, 2001b, and Rice, 1991) and on criteria and forms of documentation needed to assess scholarship across the four domains (e.g., Glassick, Huber, and Maeroff, 1997; Shulman and Hutchings, 1998). A search of the Institute for Scientific Information's citation database reveals that more than 160 articles reference Boyer's *Scholarship Reconsidered*. In addition, Boyer's four domains of scholarship have been the primary focus of the Faculty Roles and Rewards Conference held annually by the American Association for Higher Education. This spate of literature and scholarly discussion coupled with an elapse of more than ten years since the advancement of Boyer's perspective strongly indicate a need to take stock of this literature. Such a taking stock requires attention to appraisals of Boyer's arguments by contemporary scholars and various efforts by scholars to clarify the meaning of the domains of scholarship described by Boyer. This volume reviews the major scholarly works on these topics.

Because Boyer's formulations portray how scholarship *should* be performed rather than how it *is* performed, an important question emerges: To what extent do college and university faculty members engage in the work of each of the four domains of scholarship? Despite the significance of Boyer's arguments,

little or no empirical research has addressed this essential question. Response to this fundamental question enables us to gauge the extent to which the four domains of scholarship have become institutionalized into the academic work of college and university faculty members. Five specific questions, which we address in this volume, spring from this overarching question. We concentrate on these five questions, using data we collected from a national sample of 1,424 faculty members in five types of colleges and universities and four academic disciplines. Appendix A describes the study in detail. These five questions are as follows:

1. *What is the general level of faculty engagement in each of Boyer's four domains of scholarship? Do faculty levels of engagement in Boyer's four domains of scholarship resemble the general level of publication productivity found in research?* Scholars conclude from their reviews of research that faculty levels of general, career publication productivity are low (Finkelstein, 1984; Creswell, 1985; Fox, 1985). More specifically, Boyer (1990) reports that 41 percent of faculty have never published an article, monograph, or book during their careers. Finkelstein (1984) provides another perspective on this low level of publication performance in Table 5.1 of his book, noting that 43 percent of faculty members had not published during the previous two years. Thus, a similar level of publication activity is demonstrated between the two-year and the career rate of publication performance.
2. *Do faculty levels of engagement in Boyer's four domains of scholarship match Boyer's prescriptions for institutional domain emphasis?* Boyer (1990) urges colleges and universities to define their own mission and develop a faculty reward system that supports the selected mission. Although Boyer contends that some faculty may engage in all four domains of scholarship across the spectrum of colleges and universities, he argues that some domains of scholarship should receive greater emphasis than others in particular types of colleges and universities.

In addressing this question, we make two types of comparisons: between and within institutional type. Comparisons between institutional types entail comparing faculty levels of engagement in the four domains of scholarship across different types of colleges and universities. In con-

trast, comparisons within institutional types entail comparing faculty level of engagement in each domain of scholarship for each type of college and university represented in our study.

Our study includes faculty who hold appointments at five types of colleges and universities representative of the following categories of the 1994 Carnegie classification of institutions: research I universities, doctoral-granting universities–I, comprehensive universities and colleges–I, liberal arts colleges–I, and liberal arts colleges–II. These types of institutions vary in terms of their institutional missions. At one extreme, liberal arts colleges–II are predominately oriented toward teaching. At the other extreme, research I universities and doctoral-granting universities–I are primarily oriented toward research. Comprehensive universities and colleges–I and liberal arts colleges–I hold a middle ground, as their missions tend to be oriented toward both teaching and research (McGee, 1971; Finnegan, 1993).

3. *Does faculty publication productivity in Boyer's four domains of scholarship across different types of colleges and universities mirror the level of general publication productivity exhibited across different types of colleges and universities?* The mission of colleges and universities exerts a strong influence on the scholarly role performance of academics (Ruscio, 1987). Levels of publication productivity (Blackburn and Lawrence, 1995; Ruscio, 1987; Fox, 1985; Finkelstein, 1984; Fulton and Trow, 1974), work styles, attitudes, beliefs, values, and reference groups of academic professionals vary across different types of colleges and universities (Blackburn and Lawrence, 1995; Ruscio, 1987; Fulton and Trow, 1974). Accordingly, faculty in research and doctoral-granting universities display higher levels of general publication productivity than do their academic counterparts at teaching-oriented colleges and universities (Fulton and Trow, 1974; Finkelstein, 1984; Creswell, 1985; Blackburn and Lawrence, 1995).
4. *Do faculty levels of engagement in Boyer's four domains of scholarship vary across different academic disciplines?* Academic disciplines vary in the level of consensus (high verses low) on such factors as theoretical orientation, appropriate research methods, and the importance of various research questions to the advancement of the discipline (Kuhn, 1962, 1970; Lodahl and Gordon, 1972; Biglan, 1973). Biology and chemistry are

examples of high consensus disciplines, history and sociology of low consensus ones. Braxton and Hargens (1996) conclude from an extensive review of empirical research that faculty in high consensus fields are more oriented toward research than faculty in low consensus fields. In addition, faculty in high consensus fields experience higher rates of publication, lower journal rejection rates, and greater availability of external funding for research than do their low consensus faculty counterparts. In contrast, faculty in low consensus fields are more oriented toward teaching than their faculty colleagues in high consensus disciplines (Braxton and Hargens, 1996). In comparison with high consensus faculty, academics in low consensus disciplines spend more time on teaching and express a greater interest in it. They also tend to receive higher course evaluations and exhibit an affinity for enacting teaching activities and practices designed to improve undergraduate education (Braxton and Hargens, 1996; Braxton, 1995; Braxton, Olsen, and Simmons, 1998). Given such a pattern of differences, the level of faculty engagement in the four domains of scholarship may differ between high consensus (biology and chemistry) and low consensus (history and sociology) academic disciplines. Biology, chemistry, history, and sociology are the four disciplines represented in our study.

5. *Do individual faculty characteristics influence faculty engagement in the four domains of scholarship? Do individual faculty characteristics influence faculty engagement in the four domains of scholarship in the same way that they influence general publication productivity?* Extensive reviews of the literature (Creswell, 1985; Fox, 1985; Creamer, 1998) as well as research by Blackburn and Lawrence (1995) point to one or more of the following individual faculty characteristics as possessing some relationship with general publication productivity: gender, race, professional age, tenure status, and prestige of the doctoral-granting department.

General publication productivity refers to both the form of publication (e.g., article, book, book chapter) and the objective of the scholarship being published (e.g., discovery, application, integration, or teaching). Scholars (e.g., Finkelstein, 1984; Creswell, 1985) conducting reviews of research on

publication productivity do not distinguish in their conclusions among different forms of publications, such as book chapters or scholarly books and articles. Moreover, distinctions among publications on the basis of their research objectives (e.g., basic, applied, or integrative) are also not made in the conclusions offered by scholars reviewing the research literature on publication productivity.

We enhance our knowledge and understanding of the limitations and possibilities of institutionalizing Boyer's formulations into the academic work of faculty members at different types of colleges and universities by addressing these five questions through empirical research. We further our understanding of the limitations and possibilities of institutionalization by asking what factors impede or facilitate institutionalization of the four domains of scholarship into the scholarly work of college and university faculty members. We also pursue this question in this volume. In addressing this second overarching question, we discuss factors that facilitate or impede the institutionalization of Boyer's formulations.

The guiding definition of institutionalization used in this volume is "institutionalization, most broadly conceived, is the process whereby specific cultural elements or cultural objects are adopted by actors in a social system" (Clark, 1971, p. 75). Similar to Clark's definition, Berman and McLaughlin (1974) define institutionalization as the point at which an innovative practice loses its "special project" status and becomes part of the routine behavior of the system.

Levels of Institutionalization

Institutionalization also occurs on three levels: structural, procedural, and incorporation (Curry, 1991). We contend that the achievement of all three levels is necessary to sustain the institutionalization of Boyer's four domains of scholarship. Accordingly, this volume appraises the attainment of each level of institutionalization of Boyer's perspective.

Structural

At the structural level, a change is represented in several ways throughout the institution. There is a basic knowledge of the behaviors associated with

the innovation, and those involved understand how to perform the behaviors. There is also some form of measurement in place for assessing how individuals perform each behavior (Goodman and Associates, 1982). In addition to new or changed behaviors, it is also possible that the organizational structure will have changed to accommodate additional personnel to administer the new program.

By addressing the first question guiding this monograph, the findings of our study enable us to gauge the extent of structural institutionalization of Boyer's four domains of scholarship. Specifically, we use general levels of faculty engagement as an index of the extent of structural level institutionalization of each of the four domains of scholarship. We measure general levels of faculty engagement using both unpublished and published scholarly outcomes. We discuss the use of these two measures in the section titled "Assessment of Faculty Scholarship in Boyer's Four Domains" in the next chapter.

Procedural

At the procedural level, behaviors and policies associated with the innovation become standard. In essence, they become part of the standard operating procedure of the disciplinary department or the entire institution. As for individuals in the organization, this level shows their preferences for the behaviors identified at the structural level.

By addressing this volume's second guiding question, we gauge the extent of procedural level institutionalization of Boyer's perspective. Because the attainment of procedural level institutionalization occurs when the behaviors and policies associated with the object of institutionalization become standard operating procedure of a college or university (Curry, 1991), we use the extent to which faculty engage in the domain of scholarship prescribed for their type of college or university by Boyer as an indicator of procedural level institutionalization. If faculty members follow Boyer's prescriptions for the type of scholarship that Boyer prescribes for their type of college or university, then we can assume that such scholarly efforts have become standard operating procedure. We use unpublished scholarly outcomes and publications as indicators of domain scholarship engagement.

Incorporation

The most in-depth level of institutionalization is incorporation, where the values and norms associated with the innovation are incorporated into an organization's culture. With this normative consensus comes an awareness of how others are performing the behavior as well as an agreement on the appropriateness of the behavior. The values themselves are based on a social consensus relevant to specific behaviors (Goodman and Associates, 1982). Deal and Kennedy (1982) discuss the idea that employees identify and act on the values of their organizations. Therefore, unless an innovation becomes valued, or institutionalized, it will not have anyone to lobby for its continuation. If no one in the organization acts on that value, the innovation will fail. Of course, throughout the life of an innovation before it becomes institutionalized, it may go through changes of its own before the final outcome. Those differences, from idea to implementation to institutionalization, may be minor or more dramatic in nature.

“Factors Affecting the Institutionalization of a Broader Definition of Scholarship” discusses the extent of incorporation level institutionalization of Boyer's perspective by noting forces that foster or impede the attainment of this level of institutionalization. In particular, it assesses the graduate school socialization process and the values individual faculty members, departmental colleagues, and the institution hold toward the scholarships of application, discovery, integration, and teaching.

Overview of the Volume

In addition to this introduction, eight chapters are included in the volume. The chapter titled “The Four Domains of Scholarship: Toward a Rethinking of Scholarly Role Performance” reviews Boyer's arguments for expanding the parameters of scholarship beyond discovery to encompass the scholarship of application, the scholarship of integration, and the scholarship of teaching. It also presents perspectives on scholarship that predate Boyer's formulations as well as contemporary assessments of Boyer. Contemporary assessments of Boyer include a presentation of different scholarly forms judged legitimate indices of scholarship.

The next four chapters—“The Scholarship of Application,” “The Scholarship of Discovery,” “The Scholarship of Integration,” and “The Scholarship of Teaching”—are devoted to the four domains. Each chapter presents various perspectives on the scholarly objectives of the focal domain of scholarship found in the literature. The chapters also address each of the five questions listed earlier in this chapter, using findings from our faculty professional performance study (Appendix A).

The chapter following, “Factors Affecting the Institutionalization of a Broader Definition of Scholarship,” concentrates on presenting various levels of institutionalization. It also describes factors that impede or facilitate one or more levels of institutionalization of Boyer’s perspective. The factors described are the academic reward structure, graduate education, role acquisition, scholarly values, assessment of faculty scholarship, state level economic development, faculty workload, and university-industry research collaboration.

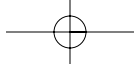
The following chapter presents approaches for changing the academic reward structure to align with institutional missions. It also provides ways in which the process of assessing faculty scholarship performance can be changed to better embrace Boyer’s formulations.

The final chapter summarizes findings of our study, organized by each of the five research questions. It also presents five conclusions derived from our findings and literature reviewed in this volume, eleven recommendations designed to enhance the institutionalization of Boyer’s perspectives, and recommendations for further study.

Appendix A summarizes the research methods and statistical procedures used in conducting our study and contains the statistical tables supporting findings of our study. Appendix B, “The Inventory of Scholarship,” includes the various forms of scholarship subsumed under Boyer’s four domains.

Intended Audience

Provosts, academic deans, chairs of academic departments, members of tenure and promotion committees, officers and pertinent committee members of professional and scholarly associations, and individual faculty members will find this volume useful in their efforts to institutionalize Boyer’s four domains of



scholarship. Scholars who study the professoriate's role performance will also find this monograph to be of value, as it offers another window on faculty research role performance.

The appeal of Boyer's four domains of scholarship resides in the possibility of developing a faculty reward structure that is more congruent with the day-to-day scholarly engagement of most college and university faculty members, the expectations of the lay public for faculty work, and the institutional missions of colleges and universities that do not primarily emphasize scholarship as discovery. This volume provides not only an empirically grounded knowledge and understanding of the extent of faculty engagement in Boyer's four domains of scholarship but also the knowledge and understanding of the factors that facilitate or impede institutionalization.

