

7 *Examples are provided about ways to change professional and ethical practices to promote the creation of a culture that facilitates and equitably recognizes collaboratively produced scholarship.*

## Promoting the Effective Evaluation of Collaboratively Produced Scholarship: A Call to Action

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It is November, and faculty members in my department somewhere are shocked to learn that a colleague's bid for tenure during his mandatory year has been denied by the department's promotion and tenure committee. The scuttlebutt in the hallways is that he did not have enough single-authored publications. Most of his publications were coauthored with a senior colleague who was doing his best to mentor him. He might be surprised to discover that most of his reviewers gave him little credit for his role in the work, even though he was identified as lead author in most of the publications. Three months later, we are slammed with another round of disquieting news. The college tenure and promotion committee turned down another case that had sailed through the department committee. Questions about collaborative relationships were at the heart of this item of unsettling news, just as they were in the first case. In the second case, the complaint that led to a split vote in the bid for promotion to full professor was, again, that the record showed too little single-authored work and too much coauthored work with students. The unfortunate consequence of all the collaboration was said to be that a convincing case had not been made that a distinct research agenda had been clearly established.

Academic reward and recognition systems are part of the discursive practices that shape faculty behavior. The reward system is defined as departmental and institutional policies and practices regarding the evaluation of faculty. The recognition system involves the wider national and

international audience for faculty work. It is reputation and impact of work that is the primary criterion for faculty success (Fox, 1985).

The two vignettes bring to life the contradictory messages faculty members receive about how much collaboration is valued in the academic reward and recognition system. Some of the mixed messages faculty receive about collaboration include:

*Contradiction 1:* Early-career faculty members are often advised to collaborate with senior faculty to gain experience about the publication process and grant writing. But regardless of statements about the allocation of credit, the senior member of the team is likely to receive a disproportionate share of the recognition (Loeb, 2001).

*Contradiction 2:* There is a professional and ethical mandate for faculty members to mentor graduate students and introduce them to the publication and grant writing process. But unless the publications focus on the faculty member's line of inquiry, collaboration can dilute the sense that a clear line of research has been established.

*Contradiction 3:* An agenda for social justice may motivate faculty to try to find ways to give collaborators an equal voice. But citation practices and authorship conventions allocate primary credit to the lead author.

That one case that opens this chapter is of an early-career faculty member and the second of a faculty member far enough along in a career where collaboration is generally not considered to be as risky adds to difficulty faculty members face as they try to juggle the demands of the system of faculty rewards.

Given that it is not uncommon for questions about collaboration to be at the center of disputed bids for tenure or promotion, it is surprising how rarely collaboration is addressed in publications about faculty evaluation. Not only were the words *collaboration* and *coauthorship* surprisingly absent from the indexes of texts about faculty evaluation (for example, Braskamp and Ory, 1994; Centra, 1993; Glassick, Huber, and Maeroff, 1997), there were no major sections or chapters devoted to evaluating collaboratively produced scholarship. The assumption that scholarship and teaching are singular activities was implicit in the texts, just as it generally is in discussion about the research process. The absence of explicit references to collaboration in texts about faculty evaluation is a clear acknowledgment of the individualistic values that underlie the traditional academic reward structure. These values reflect the unstated assumptions that artistic and scientific creativity is the product of singular inspiration and genius (Abir-Am and Outram, 1987; Stillinger, 1991).

Collaboration and rates of coauthorship are growing in almost every academic field (Austin, 2001). Despite this trend, only a small percentage of institutions are giving serious attention to redesigning the criteria they use to evaluate research (Glassick, Huber, and Maeroff, 1997). This is evident in the finding that while 69 percent of the respondents reported reexamining

the methods they use to evaluate teaching, only 34 percent reported the reexamination of the criteria used to evaluate research. Only 16 percent of the respondents from research universities reported that they had undergone examination of the methods used to evaluate research.

Professional and ethical practices need to be reexamined in order to ensure the creation of structures and practices that facilitate collaboration and equitable recognition (Kochan and Mullen, 2001). Kochan and Mullen frame the issue as one of social justice: "Dialogue is an essential element in creating a new culture in higher education that accepts, values, and rewards collaboration on at least an equal par with individual research. We believe that such dialogue is often compromised because the prevailing academic culture perpetuates inequities in authorship, even when people of good faith are working together" (p. 3). These authors are suggesting that a cultural change is required to reward collaborative work on par with individual scholarship.

This chapter addresses the absence of discussion about collaboration in the literature about faculty evaluation. It recommends steps individuals engaged in collaboration, academic administrators, journal editors, and leaders of professional associations can take to promote the effective evaluation of collaboratively produced scholarship. Table 7.1, near the end of this chapter, summarizes the ways collaborators, evaluators and external reviewers, and the professional association and journal editors can promote learning-centered collaboration.

## **An Agenda for Collaborators**

Academics who employ a functionalist perspective and approach collaboration as a way to achieve efficiencies by dividing up the labor face a different set of challenges than do researchers who adapt a collaborative approach as a way to advance learning and achieve creative and theoretical insight. Academics with the functional perspective are often concerned with an equitable division of labor and the appropriate allocation of credit. Agreement about authorship guidelines, particularly what it means to be lead or first author, is a priority for members of this group. Evaluators of dossiers during the promotion and tenure process often voice concerns about the flip side of this perspective: that academics are padding their records with publications for which their contribution to the intellectual content was minor.

Academics who undertake collaboration primarily to promote learning have to reconsider not only how they approach the process but how they document it. The implications of the learning framework for this group of collaborators is pursued in the following section using examples from the case studies presented in this volume and from a number of published narratives that provide detailed descriptions of collective ways to approach interpretation (see, for example, Eisenhart and Borko, 1991; Wasser and Bresler, 1996).

**Documenting the Collaborative Process at Multiple Levels.** Among the challenges facing collaborators is the requirement for documentation at many levels, from memoing and field notes during the design, data collection, and analysis steps of the process, to a description of the strategies used to achieve collective interpretation in research publications, and extending to biographical statements prepared during the process of annual reviews and the preparation of dossiers for tenure and promotion. The added burden placed on collaborators for documentation has the potential to be offset by more equitable recognition.

*Interactive Memoing.* Embedded in the process of establishing a convincing case for the trustworthiness of qualitative research is the expectation that researchers be reflective about the analytical process and capture the evolution of thinking as it unfolds through memoing and field notes. Memos require reflexivity about the evolution of the design and analysis, as well as about relationships to participants and the setting (Bogdan and Biklen, 1992). A commitment to document both the product and process of collaboration can provide the structure to help teams focus their interaction on activities that contribute to learning rather than strictly to procedural matters that, while necessary, divert energy from the development of new ideas or new ways of thinking.

Erickson and Stull (1998) encourage an approach to teamwork in conducting ethnographic research that embeds interactive reflection throughout the life of a research project. They underscore not only the importance of the documentation provided by field notes, but also interaction and dialogue about the notes among team members from the onset of the project. Interaction among those involved on a research team can influence research outcomes as much as, if not more than, the research design (Schatz, 1993). Erickson and Stull's observations demonstrate one way that the process and product of collaborative research are linked. They highlight how early steps of the collaborative interpretive process are key to the move from an individual to team perspective: "Explicit attention to this [sharing of field notes] in the early going can set the stage for the transition from individual ethnographers who 'own' their own notes to team members who share corporate ownership of the insights and analysis produced by field encounters" (p. 25).

Interaction about field notes early in the process of data collection is one strategy to dilute a sense of ownership for the data that can become an obstacle to developing the collective vision that Marilyn Amey and Dennis Brown describe in Chapter Three.

*External Evaluators.* A number of other strategies can be used to document the process and products of collaborative efforts. Chapter Three describes the results of the authors' analysis when they were contracted to serve as external evaluators for a university and community agency partnership. They used interviews, observation, and document analysis to examine how the team members moved from an individualistic, disciplinary stance to an integrated interdisciplinary stance.

*A Team Ethnographer or Historian.* “Writing stories” that reflect how a particular text was constructed (Richardson, 1995) offer some additional ideas about how to document the collaborative process in ways that promote learning. The team of K-12 arts educators that Wasser and Bresler (1996) describe had a person who assumed the role of team “memoist,” or ethnographer. Part of her responsibility was not only to record conversations but to invite members to pick up the thread of unresolved issues across meetings. This strategy was credited with creating the conditions for the team to move from an individualistic disciplinary perspective to a collective consciousness where collaborators were not only cognizant of different viewpoints but were willing to invest the energy to use them to develop a more complex or nuanced understanding. (I discussed the steps in this process more fully in Creamer, 2003.)

Bogdan and Biklen (1992) and Schratz (1993) also advocate strategies that promote collective self-reflection. In the page and a half that they devote to team research in their introductory text to qualitative research, Bogdan and Biklen advise that it is “worth hiring someone to research the researchers” (p. 212). A team historian or participant observer can help a team to bracket biases, address conflict, and critically reflect on thinking. Collective self-reflection can follow the action, be conducted at critical junctures in the process, or be embedded throughout the entire process (Schratz, 1993).

*Documentation During the Process of Tenure and Promotion.* The conceptual framework that shapes this book suggests that collaborators adopt a process for reflection that not only documents what was done but what was learned as well. Unanticipated outcomes may be one of the best measures that a team achieved synergy (Creamer, 2004). The authors of *Scholarship Assessed* add their voices to the call for reflexivity and for documenting both the process and outcomes of learning (Glassick, Huber, and Maeroff, 1997). Good documentation, they argue, “is dynamic, producing not merely a snapshot but a moving picture of why as well as what, the process as well as the products of scholarly work” (p. 49). In other words, good documentation can capture learning and change.

Glassick, Huber, and Maeroff (1997) note that as part of the process of evaluating faculty work, it is important to look for evidence that a scholar critically evaluates his or her own work and uses the evaluation to improve its quality. For collaborators, this suggests the inclusion of critical reflection about the impact of collaborative research and teaching on productivity in materials prepared for tenure and promotion dossiers. This would include reflections about the contribution of collaboration to learning, paradigm shifts, and the mastery of new skills.

**Documentation in Publications.** Acknowledging the contribution of collaborators has generally been treated simply as a matter of appropriate reward that follows ethical allocation credit. As important as this is to the individual careers of faculty, proper acknowledgment is also a matter of

being honest with the reader. When details about the collective process of analysis and interpretation are provided, a reader has more information to judge the trustworthiness of a publication.

There are a number of ways collaborators can provide details about the collective process and the contributions of those listed as authors of a publication: unconventional approaches to listing the names of coauthors in a publication, footnotes or other forms of notation to acknowledge the contributions of collaborators, and an explanation for how collective interpretation was accomplished.

*Unconventional Approaches to Naming Coauthors.* Some academics and journal editors are resigned to the idea that there is no way to get around the limitations of authorship listing, where the first or lead author is assumed to have the most responsibility for the intellectual content of a publication. Arguments against changing conventions for listing authors are consistent with the position that trying to discriminate the contributions of collaborators is inimical to the spirit of collaboration (Hafernik, Messerschmitt, and Vandrick, 1997). A clear division of labor may simplify the process of awarding individual credit or recognition, but it promotes a sense of ownership and interferes with the development of a collective consciousness.

Others have argued that authorship conventions routinely shortchange collaborators (Tescione, 1998). Mirroring a concern voiced by quite a number of feminists and critical theorists (for example, Gottlieb, 1995; Kennedy, 1995), Kochan and Mullen (2001) argue for the importance of subverting traditional practices for listing authors: "We share our belief that collaborative authorship practice should address issues of fairness and justice, and include strategies to make authorship that is truly equal more accurately visible" (p. 1).

In order to make visible the equality of their contributions to the publication, this pair of collaborators proposes six creative ways to present authors' names. Some of them include textual forms, like listing names in a circle, that are not readily translatable in a citation. They settled on using an equal sign to link their names: Kochan=Mullen=Mullen=Kochan. They suggest that coequal authors with a third author in a more tertiary position could be designated using this format: Kochan=Mullen=Mullen=Kochan, author3. One advantage of this suggestion is that it would not be difficult for citation databases to reproduce this format. Textual devices that offer specificity about the roles played by coauthors is one step toward more equitable recognition and reward of collaboratively produced scholarship.

*Citing Conventions for Multiple Authors.* The citing conventions for multiple authors, particularly the use of *et al.* or *and others*, is another professional practice that marginalizes the contribution of collaborators. American Psychological Association (2001) conventions reproduce the assumption of a single author and a hierarchical relationship with the requirement that publications with three, four, or five authors be truncated to only the first author after the first reference in a text.

Unconventional approaches to formatting the names of coauthors in a publication would advance the legitimacy of collaborative work only if it also translated to changes in the citing conventions for multiple authors. This could easily be overcome by allowing coauthors to specify the appropriate citation pattern. For example, a notation to cite a publication after the first citation as author1 and author2, et al. would facilitate more equitable recognition when two coauthors want to communicate that their contributions to a publication are comparable.

In making these suggestions, my intent is to offer ways to address the concern of collaborators who struggle to find ways to communicate an equal contribution. It is not my intent to encourage the gratuitous addition of the names of authors who did not make a significant contribution to the intellectual content of a publication. I wish to encourage practices that allow readers to make a reasonable assessment of who is the author of different ideas presented in a publication and to make a judgment about the credibility of the process used to achieve these insights.

*Footnotes or Other Forms of Notation to Acknowledge the Contributions of Collaborators.* It is not uncommon, particularly in books, to find a footnote or other notation about the roles played by different contributors to a volume in the acknowledgments. For example, Bensimon and Neumann offer this brief explanation about their contributions at the end of the acknowledgments to their jointly authored book, *Redesigning Collegiate Leadership: Teams and Teamwork in Higher Education* (1993): “Bensimon and Neumann directed the study reported in this book jointly. Each made an equal, though different, contribution to the book, and the sequence of their names on the title page reflects only alphabetical ordering” (p. viii). Kochan and Mullen (2001) maintain that the disadvantage of a brief reference like this is that they are often ignored by readers, as they might be discounted by evaluators who encounter this kind of description on the materials included in a tenure or promotion dossier.

Margolis and Fisher, authors of *Unlocking the Clubhouse: Women in Computing* (2002) provide one of the best examples I have seen of an explanation of the roles and contributions of two authors to a jointly authored text. In the introductory chapter, they note:

As we began our research, we referred to our collaboration as insider-outsider model; at its conclusion there was no longer any insider or outsider. By interweaving our two perspectives—Jane’s expertise in gender, feminism, and education and Allen’s expertise in computer science and education—we have attained a *more layered understanding* of the gender gap in computer science than we had without each other’s perspective. Each of us had key pieces of the puzzle the other lacked. Our collaboration has allowed us *to make vital connections*—between insider knowledge of computing and its culture and an insider’s ability to see the unseen, between an emphasis on rigor and an ear for nuance, between quantitative knowledge and qualitative knowledge, and

between an academic understanding of gender inequalities and the daily experience of these inequalities. Looking at the problem from different perspective has *allowed us to see things that we would otherwise have missed*. [p. 11, italics added]

My interest is in promoting the practice of providing more detailed information about the contribution of authors to a collaborative text than has been the traditional practice. In their remarkably compact passage, Margolis and Fisher manage to account for the different skills and expertise each brought to the project, the process they used by interweaving their perspectives, and the outcomes of their work (which I italicized in the quotation).

Margolis and Fisher's introduction is an example of collective reflection that I believe belongs in the introduction of any coauthored book. A description of the process used to achieve collective interpretation and analysis can mitigate against misappropriation of credit. That this is difficult to capture without reflexive memoing is something the volume editors and some of the chapter authors discovered when we attempted to recall the synergy that first brought us together in a symposium in 2001 (Creamer, Lattuca, Amey, and Neumann, 2002).

Richardson (1988, 1994, 1995), a sociologist who has been a leading advocate of experimental texts in the social sciences, is critical of ethnographers who separate personal reflection from the "objective" or "factual" account. An advocate of "writing stories" that provide more detailed accounts of the process required to produce texts than is customary, Richardson argues that personal reflections are marginalized when they are placed in a separate section. She provides a different perspective to what I have advocated because she maintains, "Personal experiences, anxieties, and fears are marginalized, written about in introductions, appendices, memoirs, and 'reflections' sections of qualitative journals" (1988, p. 203). She prefers an approach where comments about the interpretive process are interwoven throughout the text.

*Acknowledging the Collective Process of Interpretation.* An explanation of the contribution of coauthors to the analysis presented in an empirical account is generally relegated to a token sentence or two about the strategies co-investigators used to achieve a satisfactory level of inter-rater reliability. Similarly, it is highly unusual to find coauthors who acknowledge differences in interpretation or explain how competing explanations were reconciled. The case study of the research team presented in Chapter Four reveals the ethical dilemma that can be created when the merging of all authorial voices to a single, collective "we" suggests agreement about key conclusions when such agreement does not necessarily exist. The strategy that this team deployed, to leave the presentation of the different interpretations to articles in journals addressed to different disciplinary audiences, provided the vehicle for them to avoid reconciling their competing interpretations. (I present

an argument for multivoiced texts as an alternative strategy in Creamer, forthcoming).

Eisenhart and Borko (1991), an educational anthropologist and a psychologist, respectively, offer an unusually detailed account about how two academics sought to reconcile competing disciplinary paradigms and achieve an integrated conceptual framework. To address their differences, they invested time to educate each other about the central assumptions of their respective discipline. After designing a distinct set of research questions and collecting data separately, they moved to a collective vision by integrating their different concerns in a conceptual framework. They then tested the framework by applying it to explain specific observations of apprentice teachers. Of this critical decision, they noted, “We reasoned that by asking ourselves to provide *an* explanation for *an* incident (and over time accumulating such explanations), we would force ourselves to deal squarely with the intersections and discrepancies between our approaches” (p. 150). This pair of collaborators created a discursive strategy that gave them a way to integrate their different disciplinary perspectives.

### Conclusions: Themes That Cross Chapters

The sociocultural perspective is used most frequently in the context of understanding the learning that occurs in the classroom. It is employed less frequently to consider how scientific insight is produced. As Lattuca so ably traces in Chapter One, the sociocultural perspective helps us to see that scientific genius and artistic creativity do not emerge in a vacuum. They occur, and can be inhibited, within the shadow of the discursive practices of academic disciplines and through interaction with a network of similar-spirited colleagues within the intellectual and political climate of the time. By insisting that the context be expanded to recognize a wider circle of influence beyond the individual creator, the sociocultural perspective can be said to serve a social justice agenda. In this way, the sociocultural perspective may provide the language and conceptual orientation to inspire professional practices that promote learning-centered collaboration and equitable recognition that avoids erasing or marginalizing the efforts of contributors who are not well established in the profession.

Two themes that emerge in different ways in the case studies presented in this volume are the role of different perspectives in learning and the impact of disciplinary socialization.

**Conflict and Tension as Inherent in Interdisciplinary Collaboration.** One of the key themes to emerge from the previous chapters is that conflict and tension are an unavoidable dimension of efforts that set out to approach scholarly questions from the perspective of multiple disciplines. This is not the conflict that first comes to mind when the topic of collaboration is raised. That might lead to unpleasant recollections of the initially enthusiastic colleague who later fails to follow through, who

seems congenitally incapable of meeting a deadline, or who is willing to call a project complete long before you feel it meets your standards of quality. This conflict is not about procedural matters but about intellectual issues: the competition among disciplinary perspectives that we see in the case studies in Chapters Three and Four. This kind of behavior, as Amey and Brown explain, is partly the product of disciplinary socialization and an individualistic reward system that encourages what they have called Stage One, expert-based behavior in their model of interdisciplinary collaboration.

The collaborators presented in the case studies in Chapters Three and Four addressed intellectual conflict in different ways. The team involved in the outreach effort that Amey and Brown described were motivated to find ways to integrate their different disciplinary perspective. With the aid of a facilitative leader, they moved in that direction by finding an intellectual neutral space where they were able to internalize the concept and language of others. Members of the team described by Creamer were motivated to see their research findings from the vantage point of different disciplinary perspectives, but they conceptualized this largely in terms of addressing different audiences. Their conceptual framework did not require them to integrate their different perspectives. Dialogue promoted familiarity with each other's viewpoints, which eventually served to amplify, rather than diminish, differences. The outcome of this team's efforts illustrates that collaborators can produce an end product that accommodates diverse viewpoints without reconciling them or undergoing any fundamental changes to their own conceptual orientation (Creamer, 2003). This is what Amey and Brown would label as Stage Two behavior in their model of interdisciplinary collaboration.

The power of disciplinary socialization to influence team dynamics is evident in the case studies presented in this volume. Amey and Brown in Chapter Three characterize the early stages of interdisciplinary collaborative work as reflecting an expert model, where members remain firmly entrenched in their areas of expertise and disciplinary perspectives compete for dominance. Minnis and John-Steiner describe the sense of vulnerability academics socialized to the expert model experience when they are pushed to venture outside the safe zone of their expertise.

Tenacity to a disciplinary or experiential worldview and/or deference to another's area of expertise impedes the ability of collaborators to achieve a synthetic conceptual framework.

**Strategies to Address Conflict.** Teams use a number of discursive strategies to address differences in viewpoint productively. Some keep a project moving forward through compromise, accepting consensus as the end product, deferring to a standard such as considering the needs of their audience or what is best for the group, or by just "muddling through" (Creamer, 2003). The leader of the research team described in Chapter Four

attempted to create a culture that normalized conflict by stressing, first, the potential new insight created at looking at a research problem from the different angles of multiple disciplinary perspectives and, second, by maintaining the stance that conflict is routine, to be expected, and manageable. Despite the team-teaching environment, some the students participating in the field study described in Chapter Five expressed disappointment that they did not receive consistent feedback and directions. The instructors in this project may have been able to anticipate students' unease by launching the course with repeated warnings that conflict and different perspectives are endemic to interdisciplinary work.

**Strategies That Promote Learning and the Integration of Diverse Perspectives.** The development of a collective, synthetic, or integrative conceptual is a key step in a learning-centered collaborative framework but one that few collaborators achieve. Amey and Brown identify it as the last step of their model of interdisciplinary collaboration, but admit that it is largely conjecture on their part because the outreach team they studied had not yet fully achieved it at the time they wrote their chapter. Despite intense interaction, the members of the research team described in Chapter Four were never able to reconcile their competing interpretations of one of their principal findings.

Integration or the development of what Amey and Brown called a "collective vision" can be defined as developing a more nuanced or complex vision of the phenomenon. It is accomplished through acquiring familiarity with others' points of view and exploring the implications of differences in perspective. This is a clearly a point where learning occurs. Minnis and John-Steiner defined it "as a matter of creating a new center and dynamic among separate disciplines." They characterize it as the operational path to interdisciplinarity. Students in their interdisciplinary field project demonstrated integration when they were able to apply theory to practice through action.

**A Bridge Role.** Two of the case studies provide an idea of how teams achieve the integrated or synthetic framework that is associated with learning and new insight. The teams described in Chapters Three and Five built integration into their organization by creating a mechanism for bringing different viewpoints together. Minnis and John-Steiner call it a "bridge role" and assert that someone on the team must "consciously and seriously" undertake this role of facilitating cross-disciplinary communication. Amey and Brown explain that during the third stage of their project, a subgroup was explicitly assigned the task of bringing different viewpoints together. In addition, some teams use a team memoist or ethnographer to encourage the team to revisit areas where differences of opinions persist. As Amey and Brown maintain and Lattuca has argued elsewhere (2001), the new synthetic frameworks created by teams tend to complement, rather than replace, earlier paradigmatic lenses.

## **Revising Professional Practice to Promote Learning-Centered Collaboration**

Although models have been presented in various settings about factors that influence the effectiveness or sustainability of collaborative efforts, few studies offer in-depth analyses of collaborative research practices (John-Steiner, Weber, and Minnis, 1998). It is the very absence of accounts in the literature that document how teams learn together (as compared to how they work together, a distinction noted by Clark and others, 1996) that may explain why so little attention has been given to considering the different practices required not only to promote but to evaluate collaborative efforts involving research and teaching. Wasser and Bresler (1996) point to a promising area for future research when they argue that one reason models for evaluating collaboratively produced work are missing is that so little is known about the process of collective interpretation. Writing stories (Richardson, 1995) and other types of reflexive accounts are an important way that collaborators can be more transparent about the process of collective interpretation and writing.

Amev and Brown argue in Chapter Three for the importance of preparing graduate students to work effectively on teams and to develop the type of skills required to accomplish interdisciplinary synthesis. Similarly, Minnis and John-Steiner in Chapter Five suggest that graduate students may be in a better position to play a bridge role on teams than are most academics because they are not yet completely socialized to the “expert model” (see Chapter Four). Graduate students who have had exposure to cross-disciplinary course work may be in a particularly good position to make a significant contribution to the pursuit of different perspectives and the development of an integrative framework. More research is needed about the contribution of graduate students to learning-centered collaborative projects.

Throughout this chapter, I have suggested a number of ways that professional practice can be altered to create an academic culture that esteems collaborative work as distinct from but of comparable value to scholarship that is more compatible with the traditional, individualistic reward structure that has dominated academe. These are summarized in Table 7.1. My suggestions for professional disciplinary associations include a call to create awards that recognize collaborative scholarship that is conducted in a way that results in new insight and learning that emerges from the integration of different, but comparably powerful, areas of expertise. Other suggestions include reconsideration of the stylistic conventions for citing multiple authors.

Boyer (1990) blazed a new trail in the evaluation of faculty credentials when he advocated for expanding the definition of scholarship. Suggesting that the goal of diversifying faculty requires that standard definitions of scholarship be extended to include other arenas, including scholarship about teaching and outreach activities, Boyer identified four distinct but overlapping categories of scholarship that have not become part of the com-

**Table 7.1. Summary of Recommendations to Promote Learning-Centered Collaboration**

<i>Collaborators</i>	<i>Professional Associations and Journals</i>
<ul style="list-style-type: none"> <li>• Promote collective interpretation through interactive memoing and/or by having a team ethnographer or historian.</li> <li>• Explain the contribution of distinct areas of expertise to the analysis and outcomes in publications.</li> <li>• Use creative ways to list coauthors and identify equal contributors.</li> <li>• Prepare written guidelines to document agreements about practices for acknowledging authorship.</li> </ul>	<ul style="list-style-type: none"> <li>• Create awards to recognize collaborative activities that result in original outcomes.</li> <li>• Develop ethical standards to guide collaborative practice.</li> <li>• Lobby for changes in et al. citing conventions.</li> <li>• Add another dimension to Boyer's categories of scholarship (1990): the scholarship of research.</li> </ul>

mon parlance about faculty scholarship: the scholarship of discovery, the scholarship of integration, the scholarship of application, and the scholarship of teaching. The addition of a fifth category, the scholarship of research, has the potential to encourage additional research about processes and skills that lead to creativity and new insight.

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