Reclaiming Education's Doctorates: A Critique and a Proposal

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The problems of the education doctorates are chronic and crippling. The purposes of preparing scholars and practitioners are confused; as a result, neither is done well. We must move forward on two fronts simultaneously: rethinking and reclaiming the research doctorate (the Ph.D.), with its strong links to practice, and developing a robust and distinct practice doctorate (the P.P.D.) with a distinctive scholarly base. Unlike most current education Ph.D.s and Ed.D.s, the two degrees would serve distinct purposes, and like their medical analogs—the biomedical Ph.D. and the M.D.—would have different curricula and assessments. Building on lessons learned in the Carnegie Initiative on the Doctorate and in the Carnegie Foundation's studies of preparation for the professions, we argue that this reform is necessary and possible.

When Karen Gallagher became dean at the University of Southern California (USC) Rossier School of Education in 2000, she assumed leadership of a school whose graduate programs looked like most others: More than two hundred students were enrolled in four distinct Ed.D. programs, more than a hundred in two Ph.D. programs. Distinctions between the programs were unclear, student progress was often slow, and the quality of student work was highly variable.

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A recent academic program review had been negative, and the school was suffering from budget problems. Moreover, the university president had recently announced that doctoral programs needed to show evidence of high quality or risk closure.

This threat forced the faculty to answer questions of purpose that challenged existing structures, including implicit biases that treated the Ed.D. as a "low-end Ph.D." After much deliberation, the faculty overhauled their Ed.D. and Ph.D. programs. The decision-making and implementation processes, though sometimes rocky, resulted in two programs with clearly different goals, requirements, and student populations. Several programs, including a highly rated counseling psychology Ph.D., were dropped. Now, Ed.D. students are in a 3-year, part-time program with a practice emphasis. Admitted students are expected to have significant experience; talented candidates who do not appear to be a good fit for the program's emphases are not admitted. The Ph.D. program limits entering cohorts to a handful of students in a full-time, research-intensive program.

The implementation process had its setbacks. Although the entire faculty voted to let the Ph.D. Steering Committee set the program requirements, faculty did not support the committee's proposal to double the research requirement—to the equivalent of two solo-authored articles in 3 years—for faculty who would chair dissertations in the new Ph.D. program. Dean Gallagher responded to these objections by keeping the requirement as it had been. However, by student choice, only highly research-active faculty who can fund students on grants are advising Ph.D. students, thereby meeting the goal of the proposed research requirement.

Concurrent changes in organization and governance aided implementation. In 2001, the dean decreed elimination of the school's three departments, creating a faculty of the school as a whole, and reducing turf battles. Now, faculty members voluntarily affiliate with four concentrations.

Because the school and its doctoral programs were restructured simultaneously, the Ed.D. and the Ph.D. are developing as equally valuable, but distinct, degrees. It took tremendous faculty time and energy to make these curricular changes, and the new curriculum continues to ask a lot of faculty, who keep revising with programs under way. But the change seems worth the effort: Applications to both programs have increased dramatically, and faculty members now have a commitment to shared intellectual enterprise. USC underwent tremendous change to address significant problems.[1]

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The problems of the education doctorate are not acute. To call them such would suggest that they are new and of potentially short duration. In fact, the problems are chronic and crippling. Unless we face these issues squarely and with purposeful action, schools of education risk becoming increasingly impotent in carrying out their primary missions—the advancement of knowledge and the preparation of quality practitioners.

Some problems are endemic to all doctoral programs. For the last century—starting with William James' wonderful skewering of the "Ph.D. octopus" (1903)—many have questioned whether the experience of earning the degree prepares recipients for the professional and scholarly roles they will pursue.

Some problems are the special province of education. We struggle with the widespread perception that education doctorates

lack rigor and substance, and are often seen as second-rate degrees. Unlike other fields, ours uses the doctorate both to prepare scholars and to prepare the highest level of leading practitioners (McClintock, 2005). Often, through confusion of purpose, we end by doing neither very well.

Each year in the United States, about 6,500 doctorates are awarded in education—more than in engineering (5,700) or the physical sciences (6,000), and fewer only than in the life sciences (8,800) (Hoffer, Welch, Williams, Hess, Webber, Lisek, et al., 2005). Education students differ from those in the arts and sciences or engineering in that most education students have had careers before pursuing the doctorate. This sequencing of doctoral work and work in the profession is the inverse of other fields, with doctoral work coming at a mid-career stage for education students rather than at the beginning. On average, doctoral students in schools of education are older; the median age when they receive their doctorate is over 43. While arts and sciences students typically wait 2 years after receiving the bachelor's before starting the Ph.D., education students have an average "gap" of almost a decade.[2] In contrast to other doctoral students, the majority of education doctoral students attend school part-time while continuing to work.

To meet student needs, many education doctoral programs teach the majority of classes in intensive evening or weekend formats. This leads to little socialization into communities of inquiry or practice. Although we can make only gross estimates,[3] a relatively small proportion—a quarter to a third—enters the professoriate upon receipt of the doctorate. This is much lower than in most fields in the arts and sciences[4] and indicates a mismatch between preparation and actual career paths, an issue that also challenges the arts and sciences (Golde & Dore, 2001). Although most schools of education value diversity and depth of experience in their students, serving such a wide range of students presents significant challenges. Each discipline has its own issues to contend with, but education schools must solve some serious problems to achieve excellence.

We noticed many contrasts between education doctoral programs and those in the arts and sciences through our work in the Carnegie Initiative on the Doctorate (CID), a 5-year project launched in 2001 that challenged graduate departments to think critically about their purposes and how to redesign their Ph.D. programs. We chose to include only six disciplines—chemistry, education, English, history, mathematics, and neuroscience—to sample broadly across the academy. We explored the particular challenges and contexts of each field and aimed to achieve discipline-wide impact and to foster cross-disciplinary insights and learning. We selected about a dozen participating departments in each of the six disciplines. In education, we worked with 15 schools and departments (see complete list at *www.carnegiefoundation.org/cid*). The process of reflection, implementation of program changes, and assessment that these departments and programs engaged in is leading to stronger doctoral programs and changed habits of mind in participating faculty and students. Like USC, a number of participating institutions are clarifying their research training missions (examples are discussed later in this article). By observing their deliberations, we can better understood the issues and challenges involved in training practitioners and researchers; we have also crystallized our thinking about the need for an alternative to how most schools of education prepare educational leaders for the world of practice.

For years, the field of education has struggled to strike a balance between the *practice* of education and *research* in education, in crafting doctoral programs to meet the needs of a diverse student population. Partly as a reflection of this research–practice tension, education (like medicine and the biomedical sciences) has accommodated two terminal degrees—the Ph.D. and the Ed.D. Teachers College, Columbia University, granted the first Ph.D. in education in 1893. In 1920, Harvard University awarded the first Ed.D. In 1931, the field produced its first study on the wisdom of granting the Ed.D. as opposed to the Ph.D. (Freeman, 1931).

Ninety-two universities had granted one or both education doctorates by the late 1950s (Moore, 1960); that number increased to 167 by 1983 (Anderson, 1983) and now exceeds 250 (Levine, 2005). After decades of steady growth, the Ed.D.'s popularity began declining in the 1960s. Today, Ph.D.s probably outnumber Ed.D.s (Brown, 1990). The literature is rife with studies comparing the Ph.D. and the Ed.D. and arguing for the elimination of one, or for an increased distinction between the two (Anderson, 1983; Brown, 1966, 1990; Brown & Slater, 1960; Clifford & Guthrie, 1988; Deering, 1998; Dill & Morrison, 1985; Levine, 2005; Osguthorpe & Wong, 1993).

In theory, these two degrees are expected to occupy overlapping yet distinct categories. The Ed.D., intended as preparation for managerial and administrative leadership in education, focuses on preparing practitioners—from principals to curriculum specialists, to teacher–educators, to evaluators—who can use existing knowledge to solve educational problems. A Ph.D. in education, on the other hand, is assumed to be a traditional academic degree that prepares researchers, university faculty, and scholars in education, often from the perspective of a particular discipline. Research questions, techniques, and thesis requirements for the Ph.D. are expected to be more theoretical than for the Ed.D. and are similar to those in other academic disciplines (Anderson, 1983; Dill & Morrison, 1985).

In reality, the distinctions between the programs are minimal, and the required experiences (curriculum) and performances (dissertation) strikingly similar (Anderson, 1983; Dill & Morrison, 1985; Murphy & Vriesenga, 2005). Instead of having two separate entities that effectively accomplish distinct functions, we have confounding and compromise, a blurring of boundaries, resulting in the danger that we achieve rigorous preparation neither for practice nor for research.

One of the greatest challenges for education Ph.D. programs is ensuring that students develop into effective researchers. This was the issue most often raised by departments applying to participate in the CID (Golde & Bueschel, 2004), not surprisingly, given the well-documented national debates about what counts as quality educational research (see Eisenhart & Towne, 2003; Olson, 2004; Shavelson & Towne, 2002). To people outside the field of education, however, this is astonishing. The Ph.D. is a research degree; research is generally the one thing that Ph.D. programs are confident that they do well (Golde & Dore, 2001).

For the Ph.D. in most arts and sciences fields, a small cohort of students is admitted every fall for full-time study. The first

1 to 3 years emphasize course taking, but most students are also immersed in an apprenticeship to scholarly life: conducting research and teaching undergraduate classes. Students quickly transition from consuming to producing research, whether they are incorporated into a faculty member's ongoing research program (typical in the lab- or field-based physical, biological, and social sciences) or are producing smaller pieces of scholarship under the tutelage of faculty in courses (usual in the humanities and other social sciences). Once they advance to candidacy, students spend most of their time on their own research and scholarship under the regular mentoring supervision of faculty. Typical strategies for doctoral education in the CID's six disciplines are described in a collection of essays commissioned for the project (*Envisioning the Future of Doctoral Education,* Golde & Walker, 2006). Education alone struggles with whether and how to keep research at the center of the Ph.D. Explanations range from students' lack of interest in research (or even, dare we say, mistrust) to the limited number of funded research projects that can support full-time study at schools of education.

Even more apparent is the Ed.D.'s failure to do *its* job. Although most students in Ed.D. programs do not aim to be researchers, their doctoral programs often treat them as such by offering experiences more similar to Ph.D. programs than to the high-level preparation for practice or leadership found in other learned professions. Too often, the Ed.D. is defined by subtraction, with fewer requirements than the Ph.D. and much less emphasis on full-time study and residency. Nevertheless, the capstone requirement is some form of dissertation, although practitioners are unlikely ever to be asked to produce research like it again. Instead of being valued for accomplishing the discrete ends it was originally designed for, the Ed.D. is widely regarded as a "Ph.D.-Lite."

Not surprisingly, education programs in the CID struggled with questions of purpose and mission in training their doctoral students. Although participating departments were not prepared to scrap their programs and start *de novo*—in any of the six fields—all tried to ensure that their programs reflected the goals of the students, department, university, and discipline.

The Carnegie Initiative on the Doctorate

The CID's open-ended, locally determined change strategy provided a window into doctoral education in education, especially in contrast with the other five arts and sciences disciplines included in the project. Departments received no money for participation; rather, the Foundation offered a process for engaging deeply in questions of purpose, and encouragement to experiment with our offerings and to document the outcomes. We provided framing ideas; annual convenings at the Foundation; a network of colleagues; and feedback, support, and encouragement. All of these were in service of departments engaging in critical reflection and deliberation leading to action. We structured great flexibility into the project and left it to individual departments to decide how they should proceed locally, which aspects of their doctoral program to focus on, which particular practices to implement, and what kinds of evidence to collect.

We asked participating departments to identify a leadership team that included faculty and doctoral students. The leadership teams were expected to deliberate seriously, suggest and implement appropriate program changes, and assess their efforts. We wanted departments to feel accountable to the project from a spirit of shared inquiry, not out of a fear of losing money. Participating departments shared the vision of developing students into "stewards of their disciplines." We proposed that the purpose of doctoral education is, taken broadly, to educate and prepare those to whom we can entrust the vigor, quality, and integrity of the field. We believe these people are scholars first, in the fullest sense of the word—future leaders who will creatively generate new knowledge, critically conserve valuable and useful ideas, and responsibly transform those understandings through writing, teaching, and application. We call such people "stewards of the discipline." (See Golde, 2006, for an extended discussion.)

We use the term "steward" deliberately, intending to convey a role that includes, but also transcends, accomplishments and skills. A steward is entrusted with the care of the discipline, and thinks about the discipline's continuing health and how to preserve the best of the past for those who will follow. Stewards direct a critical eye toward the future. They must consider how to prepare and initiate the next generations of leaders. We believe that these ideas are particularly compatible with education's long-standing commitment to social justice, equity, and professional responsibility.

We also provided CID departments with discipline-specific ideas for fruitful practices and recommended reforms. The essayists for *Envisioning the Future of Doctoral Education* (Golde & Walker, 2006) addressed the question, "If you could start *de novo,* what would be the best way to structure doctoral education in your field to prepare stewards of the discipline?" The essays were intended to spark faculty and student thinking rather than to offer definitive prescriptions to the participating departments.

In "Stewards of a Field, Stewards of an Enterprise: The Ph.D. in Education," essayist Virginia Richardson (2006) discusses the importance and challenge of teaching students the practice of research. She lists seven outcomes of learning to conduct research and the associated knowledge, skills, and habits of mind that students need to develop. She asserts that this kind of preparation will require "goal-setting, analysis, assessment, and constant vigilance on the part of a Ph.D. faculty if we are to develop Ph.D. graduates who are able both to conduct important, high-quality, useful research on educational practice and issues and provide guidance in improving the education enterprise" (p. 267). Richardson's detailed prescription for a research-intensive Ph.D. provides a useful blueprint for those questioning what their programs should look like.

The education departments that participated in the CID are now on a path of reflection and change. USC took the most dramatic path, distinguishing explicitly between the Ph.D. and the Ed.D. On the Ph.D. side, several departments have engaged in clear movement toward enrolling students full time, creating full-immersion and unequivocally research-focused programs. The following three examples illustrate these efforts.

The School of Education at the University of Colorado at Boulder designed a new doctoral curriculum around its more tightly focused research-oriented Ph.D. program, intending each change to strengthen research training. Inaugurated in fall 2005, the new program features the following: The first year is devoted to core courses,

taken by the entire student cohort, which include two qualitative research methods courses, two quantitative methods courses, and two courses on the big ideas in the field of education research. Students also take a specialty seminar in each semester for their particular program area. In the second year, students move into specialized area courses and take one multicultural education course as a cohort. The third year emphasizes advanced courses and comprehensive exams; the fourth and fifth years focus on dissertation work. These changes were a response to strong indicators that the original program was not preparing all students well: Courses were taken in ad hoc sequences, few advanced courses (which depend on some shared knowledge) could be offered, and students graduated with uneven knowledge of shared issues and research norms and standards.

The School of Education at the University of North Carolina at Chapel Hill undertook a reorganization of the Ph.D. and Ed.D. degrees in 1996 similar to that at USC. The CID committee, formed in fall 2002, which focused solely on the PhD. program, realized that Ph.D. students needed new opportunities to create community, engage with intellectual work, produce scholarly work, and learn about inquiry and research in their Ph.D. training. In response, the committee created "inquiry groups" to bring together faculty and students interested in a particular topic and research problem. The expectation is that their work will lead to scholarly publication by participants. The groups started in 2004, after CID began. There has been some initial success; however, the structure and role of inquiry groups continue to evolve. Participating students (the inquiry groups are voluntary) are enthusiastic but worry that courses must take priority. Other students feel they do not have time to join an inquiry group. Faculty members receive no teaching credit for creating inquiry groups but nevertheless send a message about the necessity that all PhD. students have equal access to early and sustained participation in inquiry and scholarship.

As described earlier, USC made dramatic changes in its doctoral programs. The faculty convened in a two-and-a-half-day strategic planning meeting, in which they confirmed their focus on urban education and developed an outline for radically revising the Ph.D. and Ed.D. programs. The Ph.D. program shrank, from 70 new students per year to a half-dozen in 2004. The students now receive 4 years of full funding, and the Ph.D. curriculum now explicitly aims to develop future faculty for major research universities. A "program professional core," which includes an introduction to the professoriate course, now supplements traditional courses. Students must develop teaching and research portfolios throughout their careers.

USC's new Ed.D. program, a 3-year cohort-based program, is clearly distinguished from the Ph.D. program in its emphasis on practice. Students participate in "thematic dissertation groups," working collaboratively with faculty and practitioners to study a contemporary problem in educational leadership. The group's work culminates in a set of complementary dissertations around thematically similar topics. Students write individual dissertations but rely on faculty group leaders and group members for support, literature and research design recommendations, and feedback on drafts. In the first year, all students take four thematic core courses. In addition to the core courses, Ed.D. students take five courses in their area of concentration. Originally, these courses were selected from existing offerings. Now they are being modified, and sometimes newly invented, to align with the core courses. Few expected faculty members to invest so much time in curricular revision, but the faculty felt that their investment in the core would be compromised if they did not subsequently tackle the specialty courses. (The University of Colorado reports a similar "ripple effect," where one change inevitably leads to more.)

Today, the USC education faculty members see their doctoral programs as works in progress and subjects of ongoing reflection. Each change leads to new questions. For example, is the dissertation the appropriate capstone for the Ed.D. program? Dean Gallagher believes success is possible only because the two programs were restructured simultaneously. "Change of this magnitude can almost kill you," she said, "but it causes you to think, 'How *can* we do things differently?' You are forced to think innovatively if you want to do something important" (personal communication, January 23, 2006). We are encouraged by how purposeful and reflective USC was in implementing these changes. Such ongoing habits of thinking about a doctoral program are a central goal of the CID.

These three examples show how education schools can restructure the Ph.D. to infuse learning of the techniques, habits of mind, and abilities of good researchers throughout the Ph.D. program. In this conception, the Ph.D. in education would be like the Ph.D. in other fields—full time, a true research apprenticeship in a multigenerational research lab/field setting, with a dissertation-like capstone.

Visions of the Possible: A Professional Practice Doctorate for Education

Standing in the way of any effort to strengthen the doctorate preparing scholars of education (the Ph.D.) is the critical need to revive and restore the doctorate preparing practitioners at the highest levels. We propose a new doctorate for the professional practice of education, which we might call the Professional Practice Doctorate (P.P.D.), though the name should be the least of our concerns. Despite the many challenges involved in creating a new degree, we believe the greatest danger lies in doing nothing. A new degree can help restore respect for the excellent work of education practitioners and leaders.

Arthur Levine (2005) has argued that the current Ed.D. should be re-tooled into a new professional master's degree, parallel in many ways to the MBA. We believe that, properly understood and designed, the highest professional degree in education deserves to be a doctorate—but not one so readily confounded with the doctorate needed to prepare education scholars.

Do we need to begin afresh rather than simply repair the Ed.D.? Why propose a wholly new professional practice doctorate for education and not a totally reinvented Ph.D.? In our judgment, the extent to which the professional practice doctorate requires a new vision demands a "zero-base" approach to design, without any of the assumptions that characterize the status quo. Tinkering toward the ideal is much less likely to succeed than starting with a clean slate. As the new degree approaches the ideal, we will be able to restore the Ph.D. as a bona fide preparation for research, instead of an omnibus degree that signals all things to all educators.

The P.P.D. that we propose would be an extremely demanding, rigorous, respectable, high-level academic experience that prepares students for service as leading practitioners in the field of education, whether as educational leaders—principals, superintendents, policy coordinators, curriculum coordinators, and so forth—or as educators of teachers and other school personnel. We argue that preparation as a scholar in the traditional sense, culminating in a doctoral dissertation, is not the best way to prepare the superintendent of schools for a California community or a teacher–educator who will be preparing teachers of mathematics for that same community. We need a degree that is positively and intentionally designed to serve the needs of professional practice—as the Ed.D. was originally intended to do, but no longer does.

By analogy, there are two degrees in the medical sciences: the M.D. and the Ph.D. in a biomedical field.[5] The recipients possess different but overlapping bodies of knowledge, see their professional practice in different ways, and have been trained and assessed in radically different ways. Most important, they are engaged in very different fields of practice. The M.D. spends years in the supervised practice of medicine, surgery, psychiatry, and the like. The Ph.D. spends years learning the practices of biomedical research and theory development.

Similarly, the Ph.D. and P.P.D. would be different—one the research degree and the other the practice degree. Like the M.D., the P.P.D. as we envision it would be highly rigorous, easily identifiable postbaccalaureate degrees that are prestigious, *sans* dissertation, but with substantive professional assessments at the end. And, like the M.D., the P.P.D. would have identifiable signature pedagogies (Shulman, 2005). Many P.P.D. faculty would be highly skilled practitioners, perhaps also with the title of "clinical" faculty. (We note that USC has defined criteria for "practice-active" faculty members in their Ed.D. program.) Unlike the M.D., which is typically pursued before practitioners enter independent practice, the P.P.D. probably would be earned by teachers, educational leaders, and teacher–educators who are already engaged in forms of practice and would pursue this degree concurrently or in serial periods of study, practice, and study-embedded practice.

Assessments Motivate Program Design: How to Begin

One possible way to develop the P.P.D. is to design the final set of assessments first, then embark on the creative design of programs. This "wisdom of practice" strategy begins with studying and thinking about the most able exemplars of accomplished practice that can be identified. We can then ask what they do, and do well, that leads us to consider them exemplary, and what tasks or settings enable such accomplishments to be demonstrated. How would one know if practitioners have reached that level of accomplishment, short of shadowing them for a year? What kinds of exercises, simulations, investigations, writings, and approaches to the systematic observation and documentation of practice is needed to make a grounded judgment of practitioners' competence? This is similar to the process that some of us engaged in 20 years ago, in laying the groundwork for the National Board for Professional Teaching Standards (NBPTS; Shulman 2004a, 2004b). We asked, "What are the challenging situations that separate the sterling practitioners from those who are merely average? Can we develop a set of assessments that put people in situations like that? Can we then set standards for performance in those situations?" The point is to use practice as the template and ask what the standards are for the wisest practice.

The assessments and standards of the NBPTS have been so influential that a growing number of institutions have designed M.A. programs in education around them. It is possible to imagine a similar process whereby a highly public, well-justified, rigorous set of assessments for the highest levels of professional practice might also stimulate the development of new P.P.D. programs.

Approaches to assessment in fields such as medicine are much more varied than in Ph.D. programs. In medicine, one engages in assessments of knowledge, assessments of practical skills, and assessments in a variety of fields. One does not converge on a single monograph. We anticipate something similar in the case of the P.P.D.; we might call this an "assessment decathlon." In medicine, assessments are also deeply embedded within programs of residency training. Since education does not have the kinds of supervised residency characteristic of medical education (nor is the teaching hospital a helpful analogy to possible professional development schools for educational practice), we expect that a P.P.D. candidate could use his or her own practice situations as the equivalent of some combination of a residency clinical setting and an experimental laboratory or field site.

Undoubtedly, some research-related skills that we identify with the Ph.D. would be required for a P.P.D., as well. We would expect, for example, an accomplished P.P.D. to be able to read, *very* critically and analytically, research reports claiming to offer evidence that people should teach in certain ways, organize schools in certain ways, or redo the economics of school districts and states in certain ways. We would expect a P.P.D. to have the skills and experience necessary to evaluate such reports or to know when he or she needs more specialized knowledge to be able to evaluate them. Just as reviewing and critically analyzing literature is a requirement for a Ph.D., we believe it must be a requirement for the P.P.D., to enable practitioners to make practice and policy decisions—not to add new knowledge per se to the field. We also believe that the P.P.D.-holder should be skilled in carrying out local research and evaluations to guide practice. Those who teach should develop skills and experience in carrying out the scholarship of teaching and learning in their own programs.

Our CID research revealed a troubling contrast between the doctoral study of education and that of other fields: The majority of education students pursue their degrees in a part-time, almost haphazard, manner. If we turn this fact on its head, however, we can make a virtue of necessity. We propose fashioning a program that treats the "practice" part of students' lives as the wellspring of inspiration that makes their doctoral study richer and more powerful. In the best of all possible worlds, P.P.D. candidates would be *required* to have a certain amount of prior and ongoing practice experience. The initial part of the program would merge practice and part-time doctoral study; at the end would be a year-long residency, during which students would prepare in a more self-conscious way for the assessments and integration. People would be asked to give up only one year of work for full-time study—a capstone year with a definitive end.

The Name Is Not the Thing

Let us not argue about the name of the degree. Our view is that if education had made the right turn 50 years ago, the Ed.D. would be precisely the degree that we are proposing. Indeed, if our critique is taken seriously and acted on, the resulting degree is more likely to be called an Ed.D. (new and improved!) than a P.P.D.. We hold no particular brief for the letters P.P.D.. We propose a new degree only to escape all the accumulated layers of expectation, tradition, and association with which the Ed.D. is currently burdened.

There is real danger in taking to extremes the distinction between a professional practice degree and a research degree. Both will include an abundance of cross-over experiences and training. All university-based doctoral degrees must be grounded in scholarship as both substance and process. P.P.D.s will learn how to conduct applied research and critically read research reports, and will have serious grounding in scholarship. Ph.D.s will have to understand policy and practice deeply if they are to be scholars *of* educational practice and not garden-variety social scientists. Nevertheless, the emphases of the two degrees will be quite different, as is the case with the M.D. and the biomedical Ph.D.

We are sensitive to the concern that we may be misclassifying teacher–educators by placing them in the practice group. Indeed, how non-Ph.D. scholars can flourish and gain tenure if they focus primarily on practice is a question faced by professional schools in every field from law to nursing. That said, most teacher–educators must be highly accomplished practitioners who can analyze, evaluate, and—most important—model and teach practice to future (and currently active) teachers. That set of qualities is very difficult to attain. Add to them the expectation that P.P.D.s in teacher education be capable of competent applied research on teacher education, and we have the elements of a seriously demanding, albeit reasonable, doctorate of practice. Meanwhile, a smaller number of doctoral candidates could pursue the Ph.D. in teacher education (the same is true of educational leadership, we suspect) and prepare for different roles that are engaged *primarily* with research and the preparation of future research scholars.

Issuing the Challenge

These challenges can be met only by courageous new designs, experimentation, and evaluation. We are painfully aware of how difficult it is to introduce a new degree into the sturdy pantheon of graduate education, even when the argument supporting the effort is strong. As a cautionary tale, we review the frustrating attempt to create the Doctor of Arts (D.A.) degree, first proposed in 1932 but not attempted until much later.

Beginning in the 1960s, with strong support from the Carnegie Corporation of New York under the leadership of Alden Dunham, some institutions developed D.A. programs. In 1967, Carnegie Mellon University adopted the first D.A. degree in the fields of English, fine arts, history, and mathematics. Here was a degree envisioned as a preparation for college teaching in each of the disciplines, rather than for a career in research. Then, as now, the vast majority of those who earned Ph.D.s devoted their careers to teaching rather than to conducting research.

With the support of several powerful advocacy groups, 31 institutions adopted the D.A. However, the degree never spread or found the success that its proponents imagined. By 1991, only 21 universities were still granting the D.A.; the number has dropped to 12 today, and at those schools the D.A. usually is granted in only one or two fields. Glazer (1993) attributes this to a combination of factors: competitive pressures emphasizing research over teaching for faculty and students; the collapse of the academic job market; and the proliferation of other specialized doctorates in music, business, fine arts, and many of the professions.

The P.P.D. idea may well share the D.A.'s fate. For those who believe that the status quo is perfectly satisfactory, that would be fine. But those who share a sense that there is a serious problem must attempt to learn from the failure of the D.A. (and the more recent success of the Psy.D. and other new degrees) to map our strategies for reform.

Next Steps

We believe that the Ph.D. and the Ed.D. in education are now so closely intertwined that the improvement of one will necessarily entail the improvement of both. Practical steps can be taken concurrently. Ultimately, this kind of change will occur from the bottom up, institution by institution, program by program. No institution can be expected to pull it off in isolation. Therefore, even as change occurs locally and experimentally, it must be supported by the progressive networking of individual sites prepared to form consortia that experiment with such efforts in collaboration. For the past 2 years, the Carnegie Foundation has been working with the Council of Academic Deans from Research Education Institutions (the association of education school deans). Many in this organization find our vision of the P.P.D. compelling.

One strategy is to create a design team, akin to the NBPTS's planning committee, and charge it with developing P.P.D. assessments. Students could participate in a high-profile but low-stakes assessment environment, an "assessment decathlon." This would be a viable model for gaining national acceptance of a set of assessments. Over time, we imagine that P.P.D. programs would emerge, more purposefully preparing students to document and demonstrate their competence in these areas. Meanwhile, a group of doctoral educators has begun to meet at the Carnegie Foundation to develop a plan for action.

However the leadership for P.P.D. development emerges, nurtured by the Carnegie Foundation and located in a coalition of leading schools of education, we believe this is the boldest and surest way to confront the serious problems that plague both of our doctorates in education. John Gardner, former president of the Carnegie Foundation for the Advancement of Teaching, once said that "what we have before us are some breathtaking opportunities disguised as insoluble problems" (Gardner, 1965). If we can bring the education doctorates for practice and scholarship in better alignment with their professional and disciplinary analogs, we will make a powerful contribution to American education.

NOTES

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[1]An additional description of the USC case can be found later in this article and in other

publications of the Carnegie Foundation, as well as on the USC Rossier School of Education website (*http://www.usc.edu/dept/education/*).

[2]The estimate of the average time spent between receipt of the baccalaureate and start of the doctorate is derived from the Survey of Earned Doctorates reports. We subtracted the reported disciplinary average for registered time to degree from the total time between receipt of baccalaureate and receipt of doctorate. From "Summary Report 1999" (Sanderson, Dugoni, Hoffer, & Meyers, 2000) through "Summary Report 2003" (Hoffer, Dugoni, Sanderson, Sederstrom, Ghadialy, & Rocque, 2001; Hoffer, Dugoni, Sanderson, Sederstrom, Welch, Guzman-Barron, et al., 2002; Hoffer, Sederstrom, Selfa, Welch, Hess, Brown, et al., 2003; Hoffer, Selfa, Welch, Hess, Friedman, Reyes, et al., 2004), the data reported for education are consistent: Registered time to degree is 8–9 years, and time from baccalaureate to doctorate is about 19 years. There is a dramatic change in the most recent set of data, "Summary Report 2004" (Hoffer et al., 2005): Registered time to degree zooms to 12.6 years, and time since the baccalaureate drops to 17.2 years. We do not have a ready explanation for these changes and do not know if this is a data anomaly or a new trend.

[3]Of the disciplines that were part of the Carnegie Initiative on the Doctorate, education is the only one in which no disciplinary society has conducted a study of doctoral programs and doctorate recipients in the last decade. The American Association of Colleges for Teacher Education conducted an extensive survey in 1960, published in two volumes (Brown & Slater, 1960; Moore, 1960), with a 1964 follow-up study (Ludlow, 1964). To our knowledge, this is the last time a comprehensive effort was undertaken in the field. At that time, the majority of doctoral recipients reported seeking employment in colleges or universities. The estimate of the current situation is derived by dividing the estimated number of assistant professors in education from NSOPF-04 (U.S. Department of Education, National Center for Education Statistics, 2004)—13,500—by the number of education doctorates granted in the 6-year period between 1999 and 2004 from the Survey of Earned Doctorates—39,000. The result is 34.6%.

[4]Career outcome data are more easily found in some fields than in others, reflecting the priorities both of the disciplines themselves and of the federal government in data collection efforts. Selecting from the fields studied by the CID, the humanities have the highest rate of employment in postsecondary teaching positions: 73% of those within 5 years of receiving the doctorate (Ingram & Brown, 1997). This finding parallels more recent data of 75% in history (Bender, Katz, Palmer, & Committee on Graduate Education of the American Historical Society, 2004) and 73% in English (Nerad & Cerny, 1999). In neuroscience, at least half take faculty positions, although data tracking is hampered by the fact that most students take several postdoctoral positions. The 2003 survey of neuroscience programs showed that 3% of graduates took faculty positions immediately upon receipt of the Ph.D., 38% of postdocs took faculty positions, and another 37% of the postdocs moved to another postdoc position (Stricker, 2003). In the life sciences, overall about 40% of those who are 10 years past receipt of the Ph.D. are in faculty positions (National Research Council, 1998, p. 35). Mathematics is more like the humanities: 60% of Ph.D.s take faculty positions (Kirkman, Maxwell, & Rose, 2005). Chemistry has historically strong ties to industry; ultimately, two thirds of Ph.D. chemists work in industry or government labs and about one third work in academia (Heylin, 2004).

[5]We recognize that historically the Psy.D. has been more analogous to the Ed.D. than the M.D., but the sprouting of freestanding Psy.D. programs has become worrisome.

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