Reforming the Doctorate in Education: Three Conceptions

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Introduction

Major foundations active in higher education, such as the Carnegie Foundation for the Advancement of Teaching, The Pew Charitable Trust, The Spencer Foundation, and the Woodrow Wilson Foundation, have recently funded landmark conferences, established roundtable discussions, and supported wide-ranging collaborative inquiry on the doctorate. Concerns over doctoral education are raised in the halls of government, both federal and state. As Wulff and Austin (2004) note in "Paths to the Professoriate," there is a new and growing interest, reflected in a legion of conferences, funded research, and publications, in the doctoral degree and students' experiences while attaining it. This interest seems justified. Doctoral preparation now faces new challenges and demands in a variety of institutional settings. First, doctoral students often struggle with inadequate financial support, and carry relatively heavy teaching loads in their capacity as course assistants and teachers of undergraduates. Fellowships that would lighten their instructional responsibilities and allow them time to focus on study seem to be in short supply. Second, opportunities to be involved in serious research projects are limited, especially in course-driven doctoral programs devoted to generating revenue for the institution. Third, many doctoral programs struggle to recruit and retain students from underrepresented groups. Fourth, in many cases, major universities have large international student populations with special needs. Fifth, faculty retirements and hiring stops have led to significant reductions in the number of those qualified to supervise doctoral students. Junior faculty members, often viewed as more in tune with current intellectual trends, are pressed to serve as dissertation chairs, even though junior faculty are usually less experienced in directing doctoral work, and have less time to advise doctoral students. Finally, real discrepancies exist among career opportunities for newly minted PhDs. In the field of education, for example, science and mathematics educators have excellent job placement records and boast plenty of open positions, while historians and philosophers of education often face great difficulty finding appropriate employment in their own academic areas.

Recent literature on doctoral education has tended to focus on traditional, relatively administrative measures of quality, such as persistence, attrition, time-to-degree, and job placement (Gardner, 2004). Attention is also paid to the preparation that doctoral students receive as future faculty members (Gaff, 2002; Geiger, 1997; Hinchey & Kimmel, 2000). Nyquist et. al. (1999) report that graduate students are not prepared by their programs to assume the duties of faculty members. Golde and Dore's (2001) survey of over 4,000 doctoral students in the United States reveals a lack of connection between students' goals, doctoral degree preparation, and the careers they intend to pursue. The review by Wulff and Austin (2004) of recent action projects funded by foundations and professional organizations highlights a number of issues, some specific to individual disciplines. The laboratory sciences feature models of doctoral preparation markedly different from those at work in mathematics and theoretical physics where individual research may be more common than laboratory teamwork. In mathematics and physics, as in the humanities, doctoral education is likely to be course-driven and may require doctoral students to work as teachers to support their studies (Golde & Bueschel, 2004).

The field of education, often associated with the training of teachers, faces problems that come into clearer focus when viewed from the perspective of doctoral education. The challenges for education include a relative lack of unifying conception and of core or shared knowledge. Disciplines within education often have their own distinct notions of a canon; they retain commitments to divergent and competing epistemologies; they apply varying methods and norms that generate tensions between theoretical and practical education. At the same time, they maintain passionate interests in the competing demands of research and teaching; they debate the relations between educational practice and pure research; and they theorize endlessly about the supposed social and moral commitments of educators.

During the past two decades, no in-depth, comprehensive, large-scale study of doctoral preparation in education has been undertaken, despite the fact that education is, in comparison with other fields of inquiry, the largest producer of doctorates. Education awards two distinct doctoral

degrees: the doctor of philosophy (PhD) and the doctor of education (EdD). In the period since 1970, approximately 7,000 education doctoral degrees have been granted per annum. According to the National Research Council (1996) the number of doctoral degrees awarded to women has increased significantly; women now make up the majority of those who receive the degree. Minority students are also drawn to the field of education: sixty percent of all PhD degrees awarded to African-Americans in the last two decades have been in the field of education (Hoffer, Dugoni et. al, 2002). The enrollment of international students in doctoral programs in education is small, and only 2.8 percent of the international students studying in the United States are in the field of education at any level of study (Open Doors, 2004). However many of the larger Schools of Education, including the authors' own, have an international doctoral student enrollment exceeding thirty percent. Given the close ties to the profession of teaching, it is not surprising that many doctoral students in education have worked as teachers and are, on average, older than their counterparts in the arts and sciences. Hoffer, Dugoni etal. (2002) report the median age at degree completion to be 43.8 years. Also, doctoral students in education tend to pursue their studies part-time more often than full-time.

A number of factors have added a new sense of urgency to rethinking or re-envisioning the education doctorate. These include changes in doctoral student populations, new demographic trends, the manifold impact of technology, and political and financial pressures. These raise a number of questions that need to be addressed. "What purpose does the doctorate in education serve?" "How far are the old aims of doctoral education still relevant?" "What programmatic changes ought to be made to improve the preparation of future academics and professionals?" In 2001, these and other questions were posed by the Carnegie Initiative on the Doctorate (CID) when educationists—together with representatives of five other disciplines—were invited to participate in a multi-year project to research and reconceptualize the goal of "making doctoral education more purposeful, and adapted to the demands and needs of the new century" (CID, 2001a, p. 2).

When CID researchers Chris Golde and Andrea Bueschel reviewed the applications to participate in CID from all six disciplines—mathematics, chemistry, history, neuroscience, English and education—they concluded that "Education as a field of study appears to be chaotic and unclear, and this chaos is reflected in the state of doctoral education." They explained that, compared with the applications from the other disciplines, "Education applications seem fragmented and uncertain of how to proceed. Everything is in question, from the core to [the] interdisciplinary, from program purpose to connections with practice, from the quality of research to all six consensus issues. As the only profession in the six disciplines, education is trying to serve many roles and goals simultaneously. … but there is little agreement about methods, questions, or purpose of research" (Golde and Bueschel, 2004, p. 19).

One could view this seemingly chaotic state of affairs in purely negative terms, and come to think that, not only is education as a field in crisis, but the preparation of its future scholars, researchers, and practitioners is also unfocused and fragmented. However, as Catharine Simpson's (2003, p. 1) analysis of the humanities and its graduate education shows, this apparently fragmented condition can be taken as a sign of "healthy complexity" and an indication that the humanities, as well as the field of education, still matter. Perhaps education matters more than ever in the reigning American climate of anti-intellectualism and anti-educational sentiment. It is in this spirit of optimism that we here focus on three relatively concrete reform efforts now being implemented in a number of schools of education that took part in the CID study: the establishment of a core of educational courses, significant changes in the preparation of educational researchers, and new initiatives for developing educational professionals, only some of whom will eventually work in the academy. We award so much attention to these three because we conjecture that three different—and mutually exclusive—conceptions of the doctorate underlie the various reforms. Each conception entails a different curriculum; each suggests its own characteristic set of recommendations for change. These conceptions call into serious question the meaning of faculty mentoring, the role of preliminary or qualifying examination, and the place within doctoral programs of traditional course work. While these topics are germane to every doctoral program, regardless of discipline, we believe that the field of education addresses them in more fundamental and urgent ways. We believe that the discussions that have emerged through the CID project and the reform efforts being conceived by our colleagues in participating departments and schools of education are much more fundamental in nature than the general doctoral reform literature might suggest. As we intend to show, these discussions reflect a deeply rooted

commitment to the types of reform characteristic of maturity in the field of education.

The Doctorate and Core Knowledge

What topics or courses properly belong in an educational core? Is there educational knowledge that every PhD or EdD in education should possess? What can all doctoral students in the field reasonably be expected to know or be able to do? According to Alan Schoenfield (1999, p. 167), there is no agreed-upon core knowledge for education: "The problem of the core manifests itself in two ways. On the one hand, the intersection of various perspectives represented in education is nearly null. On the other hand, the union [across all educational subfields] is immense—far larger than can be dealt with in a short time in a meaningful way." In education, students are required to become sub-disciplinary specialists as well as generalists, at least in some measure. They are supposed to gain a broad understanding of educational practice and sophisticated skills in research while becoming accomplished teachers, scholars, professionals, and citizens. In addition to the demand for general and specialized knowledge and skill in research design, doctoral students in education are asked to master critical thinking and analysis. They are invited to develop such habits of mind as seeking criticism and showing culturally sensitivity. The character traits of intellectual honesty, integrity, and respect are also required. They must acquire good communication skills, professional curiosity, prudence, savvy, and an awareness of their social and moral commitments. Finally, doctoral students in education need to be prepared for the prospect of multiple roles, not just those of academics and researchers but also those of teachers, administrators and educational specialists in public and private institutions outside academia.

Most disciplines recruit students into their doctoral programs who already hold undergraduate degrees in that or a related discipline and can thus be assumed to have substantial background knowledge. This cannot be said for education. Not only do students with considerable variation in demographic and academic backgrounds become doctoral students in education, but requirements are seldom stipulated regarding prerequisite knowledge or methodological training. Students who are recruited into doctoral education programs can be divided into three groups: those with degrees from outside of education, former teachers, and educational administrators. It cannot be assumed that students from the latter two categories share relevant knowledge or experience.

The fact is that education is a collection of distinct disciplines (e.g., educational psychology, educational philosophy, educational history), sub-disciplines (e.g., mathematics, music, English), special interest fields (e.g., special education and higher education), and cross-disciplinary programs (e.g., instructional systems technology). If the goal of a common core is to be pursued, the challenge for doctoral programs will be to integrate groups of students with diverse disciplinary backgrounds. But this seems an impossible task. One fears that what will appear in the curricular place of a real core will be an indigestible concoction of theories drawn from educational sociology, history, psychology, and philosophy, garnished with ideas from curriculum theory, policy analysis, and teacher education served up in an assortment of helpings from various and divergent methodologies. All doctoral programs exhibit a tension between breadth and depth of knowledge. Many academics debate over core knowledge in their respective fields. But education seems to represent an extreme case. It is no wonder that the National Research Council's recent report concluded that, in doctoral preparation in education, "The breadth and depth of topical areas as well as multiple epistemological and methodological frameworks are nearly impossible to cover adequately in a single degree program" (Shavelson & Towne, 2002, p. 93).

So what is to be gained for education? It is not at all obvious that a common core will enhance knowledge production, quality of scholarship, and the academic status of education as a field of study. Indeed, graduate students may well be prevented from attaining the needed depth in their specializations if their time is devoted to the study of a broad, common curriculum. This is not to say that an introductory course or seminar for all new doctoral students would not be desirable or worthwhile. Such an introduction to graduate work could serve many purposes beyond providing an overview. But, if the goal is to produce better scholars and researchers through doctoral education, it would behoove educationalists to consider strengthening the various disciplines, such as history or science education, and to encourage faculty and doctoral students to contribute to and expand the body of knowledge in those component disciplines. Emerging disciplines, such as instructional systems technology and the learning sciences, which are considered interdisciplinary fields of study, are particularly striving to develop a sense of disciplinary distinctness and identity by defining their own endeavors in terms of a core of knowledge and distinctive methods. Interdisciplinarity may

be fashionable in administrative circles but, as educators, we need to guard against misleading students into thinking that interdisciplinary work is a good starting point for doctoral education. We should heed Catherine Simpson's (2003, p. 15) warning: "Interdisciplinarity has become a fetish and a touchstone, but no one can do interdisciplinary work well unless they have a home plate of knowledge from which they can run and to which they can return. A little learning is a dangerous thing. . . . Graduate education should not be a smattering of this and that."

Doctoral Students as Educational Researchers

The very heterogeneity of education as a field invites the introduction of different, even incompatible, research methods and rules to govern them. Labaree (2003, p.14), referring to the National Research Council's report (Shavelson & Towne, 2002), identifies the following special features of educational research.

> This [educational] knowledge is thoroughly soft because it is an effort to make sense of the collective consequences of actions of large numbers of willful individuals who are making decisions about teaching and learning within a complex and overlapping array of social systems in response to multiple and conflicting purposes. … Under such circumstances of great complexity, vast scale, uncertain purpose, and open choice, researchers are unlikely to establish valid and reliable causal claims that can be extended beyond the particulars of time, place, and person. As a result, research claims in education tend to be mushy, highly contingent, and heavily qualified, and the focus is frequently more on description and interpretation than on causation. … Educational knowledge is also thoroughly applied because it arises in response to the needs defined by an institutional arena rather than emerging from a particular theoretical problem.

Preparing future researchers is therefore a topic that looms large and often dominates discussion of reforming the doctorate in education. The accountability movement, the federal government, and various professional associations such as the National Research Council (NRC) have put pressure on educationists to conduct research that is, by their lights, systematic, rigorous and scientific (Shavelson & Towne, 2002). They challenge educationists to answer the question, "How do we prepare good researchers that are well-trained in scientifically respectable methods and are capable of revealing causal relationships among educational phenomena." Building a community of researchers and enforcing a scientific culture in education are widely deemed essential tasks. "Nurturing and reinforcing a scientific culture of educational research is a critical task for promoting better research. Scientific culture is a set of norms and practices and an ethos of honesty, openness, and continuous reflection, including how research quality is judged" (Feuer et al., 2002, p. 4). Schools of education as well as such professional associations as AERA are called upon to sponsor research-training and professional development programs to socialize future academics into an imagined research community that will eventually become self-regulating. As a glimpse at the history reveals, this remains a goal yet to be achieved in education (Lagemann, 2000).

Since the 1920s, when teacher-training colleges and normal schools became colleges of education in universities, the production of good research has been front-and-center in the field's self-image. Concerted efforts to establish a legitimate educational science did not always bear fruit or the right brand of fruit. In the early days, educational researchers borrowed liberally from the prevailing store of behaviorism and behavioral psychology, adopting a relatively narrow view of scientific method, and a reductionist conception of scholarly problems as technical problems (Lagemann, 2000). This gave rise to a monolithic model of graduate education on which educational researchers saw themselves, one and all, as applied behavioral scientists. Thus did educational psychology first appear on the map of scientifically respectable educational sub-disciplines.

Despite the relative success of educational psychology, it has not escaped criticism from within. According to Berliner (2003), the discipline is still haunted by the applicability of its research results. He demands that educational psychology be relevant, appropriate, generalizable, and usable. He rejects the dichotomy between hard and soft science. He concludes that educational research is the "hardest-to-do science of them all. We do our science under conditions that physical scientists find intolerable. We face particular problems and must deal with local conditions that limit generalizations and theory-building" (Berliner, 2002, p. 18). His insistence that research be usable places an extra burden on educationists. On the one hand, if it means that educational research ought to serve good decision-making in schools (much as medical

research supports decisions in hospitals) the demand seems prima facie reasonable. On the other hand, if it means that research problems are to be chosen strictly on the basis of future applicability, then the demand would stifle research creativity and freedom, if not productivity. Even top scientists have been markedly poor predictors of what the future, even the scientific and technological aspects of it, will require. One must also ask, "For whom is the research to be usable?" There is overwhelming diversity among consumers of educational research, nationally and internationally. The sort of educational research that works, say, in Vietnam may not please the folks in Peoria.

Recent studies emphasize the special difficulties in preparing educational researchers and make it plain that the problems of future educational researchers and of core knowledge are closely connected (Lagemann & Shulman, 1999). When Alan Schoenfeld, for example, was asked to write on the preparation of educational researchers, he replied, "[T]his charge is impossible. There is good reason to believe there is no straightforward solution to either of what I consider to be the two main problems of research preparation in education: the definition of core knowledge (the 'canon') and the development of research competency in beginning researchers"(Schoenfeld, 1999, p. 166). He argued that the latter issue in education is not much different from the correlative problem facing other social sciences, although the problems educators wish to solve may be more complex. He concluded, "The underlying constant for doing good work is, and will continue to be, having a coherent intellectual frame for exploring the issues of interest – a frame in which to identify important phenomena, formulate central questions about them, decide what appropriate evidence is, and provide defensible rationales for the claims one makes using that evidence appropriately" (Schoenfeld, 1999, p. 171).

Labaree's perspective on preparing researchers is informed by what he describes as a clash of cultures: that of the schoolroom versus that of the university research laboratory. The K–12 teacher first encounters the university researcher when he or she becomes a student in a research-oriented doctoral program. While such students often bring with them a degree of maturity, dedication, and professional experience, their preparation for research can challenge their deeply-held educational values and practical knowledge of teaching. Hence, as doctoral students, they may resist the legitimacy of an outlook based on research and reject crucial aspects of training. Labaree argues that,

> [T]he shift from K–12 teaching to educational research often asks students to transform their cultural orientation from normative to analytical, from personal to intellectual, from the particular to the universal, and from the experiential to the theoretical. Embedded in these potential pressures to change is a struggle over the relationship between teaching and research in education and an emergent struggle over the moral responsibility of both kinds of practitioners for education's social outcomes. (Labaree, 2002, p. 16)

The path to preparing competent researchers may have been blocked by internal disputes over research methods, and in particular the debate over quantitative and qualitative methods. Generally, a spirit of methodological pluralism is settling on the field, with educators pursuing a variety of quantitative, qualitative, and other approaches such as action research and evaluation studies. To quote Feuer et al. (2002, p. 9), "No method is good, bad, scientific, or unscientific in itself. Rather, it is the appropriate application of method to a particular problem that enables judgment about scientific quality."

The preparation of educational researchers is often considered the principal goal of the PhD degree, as opposed to the EdD. The latter is usually treated as a practitioner's degree, devoted to the training of education students for managerial and administrative leadership. The PhD in education is thought to be a more theoretical degree, more geared to the preparation of future academics and researchers. However, studies reveal that distinctions between the two degrees remain fuzzy in many doctoral programs; often, the requirements for the EdD are virtually identical to those of the PhD. Sharp disagreements exist over the relative scopes of the two degrees, especially in view of the fact that conventional distinctions between applied and pure research do not function well in education (Dill & Morrison, 1985). A number of CID education schools have reformed their doctoral programs so that there are distinct and clearly demarcated paths to the two doctoral degrees, with only the PhD as the research degree. These institutions have tightened application procedures, reduced the number of doctoral students admitted per year, and revamped the curriculum around research requirements. In one case, they restrict supervision of dissertations exclusively to faculty who are active in research and able to attract funding (CID, 2004).

The desire to give graduate students a significant experience in research before the dissertation stage inspires a number of reform proposals that recommend *inter alia* an in-depth study of research methods in the first year of doctoral study coupled with a requirement to complete an honest-to-goodness research project. Other recommendations include opportunities for students to serve as research assistants and to work closely with a single professor or a research team. An apprenticeship model may be more effective in teaching aspiring researchers how to design research, collect data and analyze it, draw conclusions, and publish results than the traditional model, which has them learn about these topics in the classroom. Grant writing is another research-related skill that students could pick up in this fashion. The apprenticeship idea underlies a proposal under development at Indiana University to have groups of students sharing a theoretical interest work together with one or more professors over a number of semesters to learn research techniques while conducting research.

Even if reforms like these are enacted, serious concerns persist. First, EdD students ought to be, if nothing else, informed and critical consumers of educational research. This will require some measure of serious research training. Conducting action research or analyzing large numerical data sets are essential skills for educational administrators. Therefore, it becomes clear that high quality EdD programs face issues not wholly dissimilar to those of PhD programs. Were the PhD denominated the sole, or even the premier path to a research career in education, there would be an overnight devaluation of the importance of research to EdD candidates.

Secondly, research training with an exclusive emphasis on research methods may lead to a counterproductive narrowness in educational research. Research is always conducted on some specific, well-defined topic. Researchers need to maintain a good understanding of the broader context in which the educational processes he or she wants to study are embedded. A host of interactions have to be considered, and attention must also be paid to local conditions and traditions. If not, educational research will continue to appear poor in quality, inconsequential, fuzzy, and lacking in generalizability.

Thirdly, a real need exists in education for scholars who are educated broadly in the field and enjoy the kind of intellectual work that enlarges the scope of the discipline and provides for the life of the mind. Shulman (1999, p. 160), for example, argues that scholarship involves, "acts of the mind or spirit that are undertaken in disciplined ways and subsequently made public so that members of one's intellectual community can judge their worth and then use them to support the more general program of the community." Scholarship requires intellectual curiosity, life-long learning, moral imagination, refined judgment, social sensitivity, and a passion for the subject. One must ask how effective doctoral programs are in promoting the virtues essential to a thriving intellectual community.

Fourthly, educational researchers need to be aware that not all research and scholarship are scientific in the narrow sense. Humanistic studies, such as history and philosophy of education, have made significant and lasting contributions that are now in real danger of disappearing from the academy, given the current obsession with empirical research.

Doctorate as Professional Development

Typically, large schools of education offer a variety of doctoral programs for professionals—instructional design, school leadership, educational psychology, policy studies, teacher education, and higher education are but a few of them. This variety of offerings reflects the reality that many doctoral students in education will take up careers other than that of university professor. Nevertheless, the practice of doctoral preparation in education, as in many academic disciplines, often presupposes that the student will become a full-fledged member of the academy with responsibilities for research, teaching, and service. Thus, most doctoral programs in education, excluding those devoted exclusively to credentialing, are geared to the future researcher and scholar.

On the basis of their survey of more than 4000 doctoral students in the arts and sciences, Golde and Dore (2001, p. 3) conclude, "The training doctoral students receive is not what they want, nor does it prepare them for the jobs they may take." Aptly entitled "At Cross Purposes," the survey reveals a three-way mismatch: often career preparation in a doctoral program matches neither the careers that students adopt after graduation nor the careers they would choose. Due to the contingencies of the academic job market, many doctoral students leave the academy before attaining their degrees; Lovitts (2001) cites research claiming a 50% drop-out rate across all disciplines. Sometimes, students become uninterested in faculty careers, particularly at research institutions, and seek careers outside the academy. Putting aside questions about the prospects for and the desirability of academic careers, one needs to acknowledge that the roles of faculty have changed.

Increases in the number of adjunct positions have brought about a corresponding reduction in the numbers of tenure-track faculty. For those who are on that track, pressures to publish and to engage in funded projects are constantly increasing. In addition to these demands, schools of education place high importance on the quality of teaching and on serving the institution, the community, or nation, not to mention professional organizations. Pressures such as these add to the stress of a career in higher education and may discourage doctoral students from entering the field.

According to Austin (2002, p. 7), when the model of future faculty preparation is appropriate, doctoral students do not seem to receive sufficient information early in their programs about faculty responsibilities. Austin makes it clear that "[D]octoral students must develop as researchers, as teachers, as engaged scholars, and as institutional/organizational citizens." She also recommends that PhD institutions assess doctoral students' progress in fulfilling these responsibilities and in acquiring a complex of professional identities. She believes that doctoral preparation demands, "being a faculty member, being a professional, being a member of the discipline, and being a balanced person. These responsibilities and identities may each require particular knowledge, abilities and competencies that have to be learned" (p. 9). Each of these roles carries with it a set of norms and ethical considerations that a doctoral student, in so far as he or she is learning to become a professional, must master. In addition, other requirements afford a measure of professional development in education: presenting at a conference, submitting a paper for publication, participating actively in professional organizations, and composing curriculum vitae. Experience in such activities can be encouraged and guided by a faculty mentor.

Many schools of education rely on doctoral students to serve as teaching assistants in undergraduate courses. Thus, the institution itself has an interest in offering professional guidance in teaching. Crucial to becoming a professional teacher is receiving good advice from experienced mentors, regular supervision and feedback, and opportunities for reflection directed to improving one's teaching. Unfortunately, it is often the case that doctoral students are neglected and may jeopardize their own intellectual progress in the face of demanding teaching assignments.

The Preparing Future Faculty (PFF) initiative, funded by the National Science Foundation, has endeavored to address all these issues. Haviland et al. (2004) studied and recommended ways in which members of the future professoriate can best be socialized into their future roles. They criticize doctoral preparation for academic careers on the grounds that it "promotes the replication of graduate faculty themselves (their goals, practices, and values) rather than . . . prepar[ing] graduate students to become faculty members who fulfill a range of duties in a variety of institutions" (p. 5). Further, the "PFF premise was that, if graduate preparation was improved with enhanced mentoring and professional development opportunities in a variety of settings, graduate students would have a better sense of faculty roles at different types of postsecondary institutions, make more informed career decisions, and be prepared to succeed in the careers they chose" (p. 7). The PFF initiative has been successful in disseminating knowledge about varieties of institutions. It encouraged contact and teaching opportunities outside home institutions and allowed students to conduct more successful job searches. Researchers cite evidence that professional development approaches, such as the one offered by PFF, adds value to the doctoral experience. It does not replace the traditional model but "meets graduate student needs by augmenting that model, providing participants professional development experiences in teaching and service, and sometimes in research" (p. 26).

In emphasizing professional development, however, PhD programs risk placing too little weight on the acquisition of the subject knowledge required for students to become disciplinary experts. Without a solid disciplinary foundation, a student's future as researcher, specialist, teacher and professional will not stand up to the challenges of an academic job market that has become highly competitive. Another consideration is that the availability of academic jobs cannot be ascertained five to ten years ahead. Therefore, it is hard to foresee what the ideal professional development should be for current candidates. Given these considerations, an ideal professional development program would have to be highly individualized and guided by a clear set of goals. Even were it known that a doctoral student would obtain a faculty position (something that is, in practice, never known with reasonable certainty), the variety of educational institutions in existence virtually guarantees that it would be impossible to tailor each candidate's degree preparation to his or her future position. Doctoral programs in education are organized largely by courses that are already highly structured and resist expansion by the addition of separate professional development requirements.

Doctoral education cannot be directed exclusively by the demands of the job market. There are too many unknowns, too many things to learn, too much that is of intrinsic value as opposed to merely utilitarian considerations. A PhD, even in education, is not like an MBA. A PhD represents a particular kind of learning, attitude, and mindset. It stands for a set of academic values that need protection, appreciation, and transformation. George Walker, the Director of CID, called for the preparation of a disciplinary steward who has a capacity to generate new knowledge, and the know-how required to conserve traditional knowledge of the discipline while transforming the knowledge to the benefit of others. "Disciplinary stewards are those responsible for preserving the essence of their fields while simultaneously directing a critical eye to the future, those to whom we entrust the vigor, quality, and integrity of the individual disciplines"(Walker, 2004, p. 239). Professional development, doubtless valuable for the preparation of future academics and professionals, seems to serve best as a process ancillary to the acquisition of knowledge.

Conceptions of Doctoral Education

Underlying and informing these various reform proposals are quite different conceptions of the doctorate—conceptions that are mutually exclusive and represent markedly different goals, curricula, and career paths for doctoral students. It is important, therefore, to give a clear account of each of these conceptions so that we can better understand and evaluate the various proposals for reforming the doctorate.

An epistemic core is often considered a sign of a mature discipline with an identity established through epistemological accomplishments that form a tradition of scholarly activity by those who have contributed to that core. Reform efforts that dramatize a need for a subject matter core in education view the doctorate primarily as a transaction with knowledge—a matter of knowledge acquisition. The (largely unjustified) conviction that there really is a core that unifies education, if one could only find it, is used to justify the imposition of a curriculum constructed around such a center, a curriculum intended to transmit knowledge sorted into 'core' versus 'peripheral' subjects. On this conception, the inner nature of the PhD is about establishing and preserving knowledge, especially knowledge in the core.

A second and distinct conception of PhD reform is allied with the idea that existing doctoral programs should be reconfigured to prepare students to conduct research. That conception places the acquisition of skill in research methods, skill in generating new knowledge, onto center stage and relegates the preservation and transmission of existing knowledge to the sidelines. In this scenario, doctoral study is about expanding the field or discipline through the discovery of new knowledge validated by scientific methods. The future researcher is to be equipped with a tool kit consisting of such skills as hypothesis formulation, data analysis, and experimental design. Intellectual curiosity, honesty, and the ethical treatment of research subjects are among the character traits to be instilled. Knowledge here serves an instrumental role, that of effective means to gaining new knowledge. This vision of the intellectual world is not that of a storehouse of knowledge, but of a maze of problems and puzzles that with energy, money, method, and luck can be solved. The doctoral program then becomes a form of apprenticeship, the first phase in the career of a scientist.

The third conception is associated with and helps to justify the reform idea that the PhD is a gateway to a professional career. This conception is not primarily about old or new knowledge, nor is it about knowledge preservation or acquisition. It is about the multiplicity of future responsibilities and tasks awaiting the doctoral student and for which, in this conception, he or she should be prepared. Here, doctoral preparation is about gaining competency in different areas of possible activity, those areas that will prove useful in the future career of the doctoral candidate. This conception hopes to foster in the student an entrepreneurial spirit and places great importance on learning that is valued only according to its utility in bringing about certain preconceived career goals. Thus, the doctoral program becomes a means to a professional end, a route to obtaining the PhD as a credential, as passport to a job.

The literature on school reform suggests that it is much easier to tinker on the perimeter of structures, rules and practices—what Tyack and Cuban (1995) called 'the grammar of schooling'—than to bring about fundamental change. Naturally, it is also easier for doctoral programs to make relatively minor administrative and organizational changes than to rethink or re-envision entire programs, as some reformers demand. In this article, we have articulated the three competing conceptions of the doctorate to underscore the fact that the reforms under discussion are not superficial but deep,

rooted in difficult questions about what a doctoral education should be. These issues lie close to such perennial questions as "What is learning?" and "What is education?" In thinking of doctoral reform in this way, as premised on philosophical pictures of or assertions about education, one gains new insights into its important features. For example, the passing of qualifying or preliminary examinations represents a significant milestone in many doctoral programs. Once students pass their qualifying examinations, they are allowed to move into candidacy and dissertation research. Each of the three conceptions invites a distinctively different approach to reforming the qualifying examination. A program determined to establish and maintain a strong core will set an examination that assesses core knowledge. Traditionally, this would be a timed, sit-down examination. The ability to conduct independent research, however, could not reasonably be gauged in such a traditional examination format. In the second conception of the doctorate, that in which doctoral education is preparation for research, a qualifying examination that consists of one or two published or publishable research papers seems more appropriate. In the third model, which emphasizes professional development, an appropriate qualifying assignment might be the creation by the student of a comprehensive portfolio.

It goes without saying that mentoring is essential to the successful completion of a doctoral program. The relation of mentor to protégé is a multifaceted and complex one. Each of the three conceptions brings out and displays a different aspect of the mentoring role for a faculty member. In the epistemic core conception, good mentoring means the provision of enhanced opportunities for individual study with a professor or in a study group that goes beyond required courses to gain further knowledge. Mentoring a budding researcher, on the other hand, may require offering a research assistantship to the student or co-authoring an article. In the third conception, mentoring for professional development may include supervising students in teaching, shepherding them at a conference, and introducing them to prominent scholars in the field.

In reflecting upon the literature on doctoral education reform and the specific plans that universities are developing or implementing, we have to ask ourselves whether, as prospective reformers, we are putting the cart before the horse. We engage in many reform-directed activities without a prior and clear awareness of the direction in which those activities will take us. The present effort to spell out three different conceptions of the doctorate and the reform proposals allied to them is intended to inform those activities by giving expression to the underlying philosophical and conceptual issues. In short, each reform project presupposes a picture of what ought to be reformed and what a reformed doctoral program should be. To ask after the purpose of doctoral education is already to presume that we know what that education is. One cannot improve a table or decorate a cake apart from the knowledge of what a table is and is supposed to be, or what a cake is and is supposed to be. This simple point is even more telling when it comes to a complicated phenomenon like doctoral education. We need a clear and widely agreed-upon vision of what the doctorate is in itself, before we can sensibly propose to improve it. If we start only with practical questions about the purposes that doctoral education is intended to fulfill, we have skipped over the essential questions about what it is supposed to be, and what it now is. The question of the doctorate is therefore a philosophical question about that vast and mysterious undertaking we call 'education.'

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