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ABSTRACT

A discussion of graduate higher education suggests that shifts in demography of graduate school students and changes in traditional doctoral programs will lead to increased participation in doctoral study by the nation's best and brightest students. Declines in doctoral program participation due to demographic shifts, decreasing financial support, labor market trends, role confusion and abuse of power in graduate programs, point to a need for program restructuring. With thinking and determination it should be possible to make changes in graduate education within the individual university. General suggestions for change include enhancing the understanding of contemporary graduate students who include more women, adult students, and minority students. Other changes could include improved faculty advising, redefining the role and relevance of the dissertation, increasing financial incentives, implementing programs of early recruitment, and establishing alternative tracks. An over all re-examination of the doctoral experience is in order and should be reasonably informed by a genuine effort to understand contemporary graduate students. Contains 29 references. (JB)

Shaping Graduate Education's Future:

Improving the Doctoral Experience

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Despite the discouraging news that demographic shifts and labor market forces have contributed to deficits in doctoral completions by American citizens, there are signs that positive changes in doctoral education will bring about increased participation in doctoral study by the nation's best and brightest students. Shifts in the demography of graduate school candidates, together with longstanding questions about the nature of the doctoral experience, are pressing graduate schools throughout the nation to reconsider traditional means of educating for the doctoral degree.

Problems in Doctoral Education

Declines in the participation of American citizens in programs of study leading to a doctorate have been documented in many sources (D'Arms, 1990). Reasons cited for the decline include demographic shifts, loss of financial support for graduate programs and graduate students, and labor market trends reflective of economic and technological change. To some extent these are factors over which universities have little control. However, many problem areas within the university environment itself have long been suspected or understood. Fully ten years ago David Saxon, then chairman of the board of MIT, told members of the National Association of State

Universities and Land Grant Colleges, "The pressure, in short, is inexorably for flexibility of academic programs and, even more importantly, for flexibility of people - not least in the faculties and staffs of our own institutions..." (cited in Pelczar, Jr. & Solmon, 1984).

Demographic Shifts

As with the undergraduate colleges, graduate schools are becoming more dependent on non-traditional populations to offset enrollment decline. The average age of doctoral recipients has increased from 31.7 to 33.9 during the past 25 years (Shea, 1993). These non-traditional groups (most notably older students, women, and ethnic minorities) are less inclined to accept or tolerate prevailing conditions of doctoral study, thus challenging graduate schools to adjust in order to remain viable.

Definition and Time to Completion

It has long been observed that the program of study leading to the Ph.D. lacks definition, which in part explains why it requires a longer period of time to complete than professional programs such as medicine and law (Grigg, 1965). For over thirty years it has been suspected that indifference of the faculty and excessive time to complete a Ph.D. are closely related to high attrition rates in graduate school (Carmichael, 1961). It may be argued that not only has this condition not improved, but that it may have worsened.

From 1967 to 1986, for example, the average completion time for the typical new doctoral holder increased from 8.2 to 9.8 years beyond the baccalaureate ("Students in all fields," 1990).

Role Confusion and Abuse of Power

Problems related to inappropriate use of power and role confusion have long been noted. Graduate students are more dependent on individual faculty members than at the undergraduate level, yet faculty advising is very inadequate, and opportunities for faculty mistreatment of graduate students abound. The purpose of the dissertation is unclear, as is the role of the committee in directing or approving it. Recruitment of better students has been a problem all along, exacerbated by weak articulation between graduate and undergraduate colleges (Grigg, 1965).

Altbach (1971) identified five conditions of the graduate student experience that work against successful completions:

1. Graduate students are adults in every sense of the term, but are often treated like children by the university.

2. Graduate students are woefully exploited by individual professors, departments or universities in terms of inadequate remuneration for work performed, work loads which almost preclude prompt completion of academic work, or occasional plagiarism of original work by senior professors.

3. Graduate students are the subjects of often arbitrary treatment by professors, departments, or institutions and have few means of resisting such treatment.

4. Graduate students are almost totally dependent on their professors or departments for their livelihood, for certification as scholars, and possibly for future academic positions.

5. The role of a graduate student as a teaching or research colleague with a senior professor is often ambivalent.

The Need for Change in Doctoral Programs

Whatever the underlying economic or labor market forces, a serious overall shortage of American Ph.D.'s is predicted for the foreseeable future. There is little doubt that this is due in part to the same demographic shifts which have reduced undergraduate college enrollments. It is also due to the present oversupply of faculty members who were hired in the 1960's and will begin to retire during the 1990's (Braddock, 1986). These professors will need to be replaced. Ironically, there are now fewer prospective students considering graduate school, and they realize that advanced learning no longer guarantees later economic success (Solomon, 1984).

Few would argue that conditions have improved in the last two decades, and there are tell-tale signs that the doctoral experience in particular

has resulted in growing disaffection among graduate students. For example, in recent years doctoral students on more and more campuses (e.g. Temple, Berkeley, UMass, SUNY) have stepped up efforts to establish collective bargaining units or unions as a way of dealing with poor working conditions and frustration. Failed negotiations between the University of California and the Association of Graduate Student Employees recently led to a strike and disruption of undergraduate classroom instruction ("Strike by graduate-student union," 1992). Factors that lead to such efforts include increased teaching loads, low stipends, inadequate health care insurance, and the amount of time it takes to earn a doctorate (Blum, 1990).

The disturbing implication is that the doctoral experience has developed into an excessively painful right of passage for which an indefensible human price is exacted. Doctoral students often seem to be treated as a convenient, exploitable underclass. Indeed, the doctoral experience might be viewed as the academic manifestation of the principle of "survival of the fittest."

In fairness to balanced debate, to some extent the simple forces of supply and demand regulate the production of Ph.D.'s. Because most doctoral recipients are employed by academic institutions, trends in college enrollments, coupled with the career-lengthening effects of tenure, have reduced related employment opportunities. In recent years, among Ph.D.

holders only engineers and computer scientists have enjoyed notable job growth (Braddock, 1986), and these are presently the only disciplines in which job opportunities outside of academe exceed those within it.

Kruh (1982) warned against sacrificing educational quality in responding to competitive forces in the open market. Will institutional efforts to change be successful, or will the mistakes of the past work to the disadvantage of programs and students alike? Can the deficits in doctoral completions be addressed by improving the doctoral experience, and can this be done without sacrificing the academic integrity of the Ph.D. degree? While these issues are being debated, there is real danger that the shortages in Ph.D. production will become acute (D'Arms, 1990).

Contemporary Solutions

The current environment presents an unusual opportunity to diversify graduate enrollment and to improve the doctoral experience. This is a propitious time for innovating in order to redress the lingering negative conditions which have plagued doctoral education and deterred doctoral completions for decades.

A practical beginning for a renaissance in doctoral education might be a re-examination of the experiences, knowledge, and opinions of what leads to successful completions, ever mindful of remarkable contemporary

developments in science, technology, teaching methods, and knowledge itself. Just as the transition from medieval to modern times marked the beginnings of modern science, so too have the transitions afforded by computer technology marked the beginnings of a radically different pedagogy.

With a little forward thinking and determination, it should be possible to make prudent changes in graduate education within the individual university. Following are a few general suggestions which, hopefully, will encourage and inspire those in positions to make needed changes.

Enhance the Understanding of Contemporary Graduate Students

Saxon predicted that changes in student profiles would bring significant changes in educational practice.

> In the years ahead we will have larger numbers of non-traditional students taught in a greater variety of non-traditional ways...Finding the right mechanism for meaningful new educational arrangements will require time and experimentation, but it is imperative that the process begin. (cited in Pelczar, Jr. & Solmon, 1984)

Older students, women, and members of ethnic minorities are, more often than not, concerned with balancing a number of life activities in addition to graduate school. Older students (over 24 years) as a group have increased from about half to about two-thirds of the advanced degree population

(Hauptman, 1986). It is apparent that the "intrusive" forces of work, family, health, and stress can no longer be ignored or written off as "choices made" in competition with education. Besides, the pool of otherwise unencumbered doctoral prospects, with time on their hands for schooling alone, is small indeed.

Although women are the fastest growing group of doctoral enrollers, and are expected to close the enrollment gap between men and women by the end of the decade (Adelman, 1991), they continue to face significant personal challenges related to gender, not academic preparation, in their efforts to complete doctoral study and enter the most productive careers. Clark and Corcoran (1986) noted the "triple penalty" of women who must overcome: (a) cultural barriers to entering academic careers; (b) poor experiences with advisors who doubt their potential for research productivity; and (c) impediments to success in established collegial cultures and networks. On this latter point, for example, Turner (1989) reported that more women are earning doctorates in mathematics but few were being hired by top universities.

African Americans presently earn nearly 25 percent fewer doctorates than they did ten years ago. Alan Fechter of the National Research Council has emphatically classified the minority doctoral situation as a disaster (cited in Mooney, 1990). How much of the decline is related to cultural bias?

Improve Faculty Advising

Better understanding of the new graduate students should lead to improvements in faculty teaching and, most particularly, faculty advising. If one of the distinguishing features of the Ph.D. experience is the completion of a dissertation, it stands to reason that the quality of faculty advising should be relatively high in doctoral programs. However, a recent study of dissertation practices at 40 universities in the United States and 3 in Canada concluded that advising for graduate students is indeed poor (Mooney, 1991). The report, sponsored by the Council of Graduate Schools, noted that although dissertation advisers play a critical role in student success, professors are not in fact rewarded for spending time with students.

Redefine the Role and Relevance of the Dissertation

The explosion of knowledge and the importance of team approaches to problem solving, particularly in the sciences, call into question whether the dissertation should continue to be designed only as a narrow piece of isolated research. The idea that a dissertation must be an original contribution to knowledge, undertaken in isolation by the researcher, has contributed to the "delimitation" of topics and methods in the dissertation study and is certainly one source of the criticism that many scholars are narrowly prepared. One result of the "narrow topic" approach is that creative and integrative thinking

often goes unrewarded (Boyer, 1990).

One idea gaining popularity is that the dissertation may be awarded on the basis of combining a number of published journal articles, whether they are completed alone by the candidate or in association with a team of researchers. A series of meaningful, practical, high-quality research studies that wins publication in refereed journals might well be sufficient indication that a doctoral candidate is a qualified researcher. Although this novel approach is controversial, it raises legitimate questions about whether dissertations primarily advance knowledge or serve as research practice for doctoral candidates (Monaghan, 1989). It is more likely that they do both, to a limited extent.

Increase Financial Incentives

Higher education must strengthen its power to lobby Congress for financial support of graduate education. Federal aid represents only one-tenth of all support received by Ph.D. candidates. Although a practical and effective method for increasing graduate student enrollment is to increase the availability of graduate fellowships (Newman, 1985), levels of grant-in-aid support for graduate students have decreased for more than two decades.

A recent report by the Association of American Universities concluded that a distinctive correlation exists between decreasing federal support and

declining numbers of American Ph.D.'s (AAU, 1990). The report calls for the federal government to double the number of fellowships and training grants presently available.

In addition, institutional efforts to financially support doctoral study by minority students should be examined. Smith (1985) of the Brookings Institution has warned that this is an ongoing responsibility of universities which should not be looked upon as supportable only when external funds happen to be available. Some universities (e.g. Temple, Tulane, Bryn Mawr) have provided full or partial support to minority-group members, particularly if the students indicate an interest in college teaching ("In Box," 1990).

Implement Programs of Early Recruitment

With faculty retirements expected to increase dramatically in the next few years, more needs to be done now to educate promising undergraduate students about the nature of graduate study and the coming availability of faculty positions. Undergraduates considering whether to apply to Ph.D. programs need information and advice from their professors (Blum, 1990). Early efforts to reach out to undergraduates result in higher enrollments, better "fit" between students and programs they enter, and higher completion rates.

Particular attention must be paid to recruiting minority students into doctoral study. Vaughn (1985) concluded in a Brookings Dialogue on Public

Policy that one of the two most effective approaches to minority success in graduate school is early intervention, which increases the size of the undergraduate applicant pool, enhances academic preparation, provides predictable financial aid, provides role models, and develops career prospects that successfully compete with alternatives.

Brazziel (1993) has pointed out that more early intervention work needs to be done in junior and community colleges, where over half of all college students in America now begin their baccalaureate careers.

Establish Alternative Tracks

It has been nearly twenty years since Mayhew and Ford made a compelling argument for establishing different options for earning the doctorate. They dismissed the notion that long and irregular periods of graduate study somehow lead to deepened scholarship, observing that graduate candidates who finish their degrees in a more timely manner seem to be more productive in their careers (Mayhew and Ford, 1974). They argued that doctoral graduates will use their degrees in several ways, primarily for teaching, for research, or in applied settings. Elements of the curriculum might well be organized accordingly, allowing students to move through the course of study with more confidence in the relevance of their degrees.

Pelczar, Jr. (1985) has called for graduate programs that attract highly

qualified students and prepare them to perform inside and outside of academe by means of broader, more flexible curricula.

Conclusion

It is clear from a review of patterns in graduate student enrollment and graduation rates that the path to the Ph.D. has become longer and less attractive to American citizens in recent years. It is strongly suggested that doctoral faculty heed the clarion call by turning their attention to innovations which have been suggested over the past three decades.

A re-examination of the doctoral experience is in order, and should be reasonably informed by a genuine effort to understand contemporary graduate students. Faculty need to grapple with new ways to advise these students, and should give serious thought to restructuring the doctoral curriculum to include alternative tracks. It is also necessary to ponder the meaning and structure of the dissertation, and make needed changes so that the dissertation exercise may begin as early as possible in the program of study.

Given the shortage of applicants among minority students, efforts should be made to recruit and encourage them at an earlier age. Also, internships and financial support can certainly be made more readily available with these students in mind.

Faculty must resist the temptation to overburden students with

unreasonable teaching loads. They should also join the fight to demand better compensation and develop other financial incentives for bright citizens to join in the doctoral experience. Finally, everything possible should be done to clarify the nature of the doctoral program, and to shorten the period needed to complete the degree.

The challenge, of course, is to design and initiate these needed changes without sacrificing academic quality and program integrity. Judging from the recent past, the commitment and effort needed to improve has been slow in coming. In the name of higher education, it is time to do better.

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