

EDITED BY
PEGGY L. MAKI AND
NANCY A. BORKOWSKI

THE ASSESSMENT OF DOCTORAL EDUCATION

Emerging Criteria and New Models for Improving Outcomes

FOREWORD BY
DANIEL D. DENECKE

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For their support, patience, and inspiration, Nancy dedicates this book to Fritz and Louise and family; Ron, Katie, and Trish; and especially Andrea, Margie, Joey, and Michelle.

Peggy dedicates this book to Mr. Blu for his companionship and devotion.

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The willingness to share experiences and findings that often challenge long-standing practices takes courage. Thanks to the authors of this collection for their willingness to share their research, work, experiences, insights, and self-reflections in the interest of improving educational practices, as well as providing a foundation for the development of new practices for our doctoral students. We applaud contributors to this book, including authors who focused on graduate students' perspectives and experiences, for opening new doors into doctoral education and inviting others to enter.

Peggy L. Maki

FOREWORD

Two questions loom large in current doctoral assessment discussions. First, how well are doctoral programs doing to ensure that talented and able students successfully complete their Ph.D.s? And second, how well are they preparing those students to succeed in their subsequent careers as scholars and researchers in both academic and nonacademic settings?

From a national vantage point, the answer to both questions in the United States at present is that we don't really know. The paucity of national data on completion rates and time to degree, as well as on attrition patterns and time to withdrawal is disconcerting. Several contributors to this volume have made major contributions to our understanding of these topics, but we still do not have anything resembling national data sets that would equip us to answer either question with confidence. The wide variety of definitions afloat, of institutional capacities to collect these data, and of missions and demographic composition among different universities make benchmarking with such data a daunting task. The Council of Graduate Schools' Ph.D. Completion Project and the revised doctoral assessment being conducted by the National Research Council will advance our knowledge of how to ensure that our doctoral programs are doing all they can to create conditions for student success by enhancing all aspects of the doctoral experience, especially for students from underrepresented groups (such as minorities in all fields and women in the sciences, who have traditionally completed at lower rates than majority students and men, respectively).

Just as we know very little about why those who finish and why those who leave do so, we also know surprisingly little about where students go after they earn their degrees. More importantly, we therefore have little information about how effective doctoral programs are in preparing doctorates for short- and long-term career success. Our ignorance on these matters and the lack of comprehensive national data is particularly surprising because there is so much interest on the part of the those who fund doctoral education (especially the federal agencies), as well as employers, universities, and

students. Here again, contributors to this volume have paved the way with groundbreaking research that is likely to make a more comprehensive national understanding of these issues possible.

While degree completion/attrition and career outcomes data are only a few of the objective indicators that may be used in the assessment of doctoral programs, the growing importance of these indicators in the graduate community reflects a broader trend toward rethinking what we mean when we speak of research productivity. Traditional measures of research productivity were largely faculty-centric, referring to such things as publications, citations, and research grants. While such measures still play an important role in ratings, rankings, and program review, doctoral program assessment tends to focus more on what might be called student-focused measures of research productivity: “on what *students* know and can do as a result of their graduate education and/or on what programs do to help students develop these competencies.”¹

Objective indicators such as completion rates, attrition patterns, and career outcomes are among the best overarching measures of doctoral education quality, for they reflect or refract virtually everything else that a program does to select, retain, and ensure the success of its students. Such data may be used to assess aspects of the selection and admissions process, mentoring and advising practices, curricular processes and procedures, the overall program environment and levels of socio-academic integration, the adequacy and structure of financial support, the degree of transparency about faculty expectations, and the efficacy and timing of professional development experiences and programs.

Regional accreditors of graduate programs and even some state legislatures in the United States are beginning to accord greater weight to such measures in the assessment of doctoral programs, as the wave of “accountability” that has already hit the shores of primary and secondary education is just now reaching the shores of doctoral education. Beyond compliance with minimal threshold criteria, however, there are immediate benefits to a doctoral program of using measures such as these in formative assessment. These benefits include (1) ensuring that the program is meeting faculty expectations and institutional goals and (2) enhancing the competitiveness of

¹ Council of Graduate Schools (2005), *Assessment and review of graduate programs*. Washington, DC: Council of Graduate Schools, p.23 (my emphasis).

doctoral programs and their responsiveness to students, employers, and the public. This book serves as both a practical and a conceptual toolkit for those faculty, researchers, and administrative leaders responsible for making doctoral programs more responsive and therefore more competitive in the current global environment.

As evidenced by this volume's assembly of national experts on the topic, the strength of a university's doctoral assessment strategies correlates strongly with the extent of its awareness of and participation in one or more of the major graduate reform initiatives that have enhanced doctoral education over the past two decades: the Woodrow Wilson National Fellowship Foundation's Responsive Ph.D. initiative; the Re-envisioning the Ph.D. project; and the Carnegie Initiative on the Doctorate (sponsored by the Carnegie Foundation for the Advancement of Teaching), as well as the Mellon Foundation's Graduate Education Initiative; the Preparing Future Faculty (PFF) Program (cosponsored by the Council of Graduate Schools and the Association of American Colleges and Universities); and, most recently, the Ph.D. Completion Project, not to mention the many recent innovations in private and federal fellowship and traineeship programs. Many of the experts represented in this volume have been prominent leaders in these graduate reform initiatives. These authors and the editors of this volume are to be commended for raising the visibility of concerns about student success, for articulating ways to research that success (including the identification of potential obstacles and lingering inequities), and for recommending strategies to improve a doctoral education system that is already the jewel in the crown of U.S. education.

Daniel D. Denecke
Director, Best Practices
Council of Graduate Schools

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INTRODUCTION

Peggy L. Maki

Those who venture outside the parameters of conventions and norms simultaneously experience both exhilaration and trepidation. Exhilaration emerges from the prospects of discovery and renewal; trepidation emerges from uncertainty about how discovery and renewal will challenge conventions and norms and those individuals who are comfortable with and accustomed to supporting those conventions and norms. Authors of the chapters in *The Assessment of Doctoral Education: Emerging Criteria and New Models for Improving Outcomes* share the results of their journeys to explore new approaches to or perspectives on assessing doctoral programs, thereby demonstrating that it is possible to build on, challenge, and even transcend conventions, norms, and educational practices that have traditionally served as evidence of the quality and effectiveness of doctoral programs. Through the avenues of research, the development of internally established program- and student-level assessment criteria, and the use of multiple assessment methods, this book lays groundwork for faculty, administrators, and institutional leaders to build and advance a robust internal collaborative process of assessing the quality and effectiveness of doctoral programs.

In her landmark *Change* article at the beginning of this century, “The Ph.D.: A Tapestry of Change for the 21st Century” (November/December, 2002, pp. 13–20), Jody Nyquist characterizes the current national focus on doctoral education as distinctly different from previous times of rethinking or reinvisioning the Ph.D.—times that typically resulted in affirmation of the success of doctoral education. Graduate students’ expression of their views on their education; employers’ expression of dissatisfaction in the

kinds of preparation they experience in their hires; enhanced multiple efforts across foundations, disciplinary societies, and government agencies prompting reassessment of doctoral programs, practices, and structures; national organizations and regional accrediting agencies seeking evidence of student learning; and changing societal needs altogether have created a context for inquiry that differs from previous times. Not that the Ph.D. was “done wrong,” Nyquist asserts, “In fact, it has been done magnificently. But changes in society create new requirements, and we need to honestly assess the efficacy of the Ph.D. now to ensure that its recipients continue to make the kinds of contributions in the public and private spheres that the nation needs to remain strong” (p. 14). Identifying the range of national projects focused on examining doctoral education, she optimistically concludes her description of them with these sobering words: “As always, what matters most is what happens next” (p. 20).

A significant part of “what has happened” since Nyquist’s 2002 article is reflected in the focus of this book—developments in criteria for assessment and models to assess (1) doctoral program norms, structures, practices, values, and traditions, and to assess (2) doctoral student achievement through the representative kinds of work graduate students produce along the continuum of their studies. The collective voices represented in this book, consisting of faculty, administrators, leaders in national organizations, researchers, and doctoral students themselves recognize that there is, indeed, more to assessing doctoral education than is represented in externally developed evaluation criteria that have historically been used to rank doctoral programs, such as the research productivity of faculty. Rather, doctoral programs consist of a variety of other factors, such as curricular design and sequencing, pedagogy, sets of educational experiences, educational practices, and rites of passage that form the fabric of students’ learning. Integrated into this fabric are also mentoring and advising processes that support and guide students as they progress through their studies, engage in and produce representative work in their field of study, and become acculturated and socialized to doctoral program expectations as well as to the expectations of their field or profession. Also, how graduate students experience their doctoral journey and how they view its relevance once they make the transition into a career are valuable sources of evidence about the efficacy of doctoral educational practices.

This collection also comes at a time when external stakeholders, such as accreditors and national organizations, are increasingly seeking evidence of

doctoral program quality and effectiveness that includes documentation of student achievement—beyond graduation and placement rates. Stakeholders are focused more and more on ascertaining how well doctoral programs use the results of their inquiry into program quality and effectiveness to improve doctoral program outcomes, including student learning. Benefiting from the emerging commitment to assessing student learning at the undergraduate level, doctoral programs are now exploring, developing, sharing, adapting, innovating, and implementing relevant assessment models and practices to engage faculty and administrators in a collaborative examination of representative student work or performances, such as dissertations or capstone projects. This examination occurs within the context of collaboratively agreed-upon performance expectations that emerge from the curricular design, pedagogy, and structures that faculty and other contributors to student learning believe promote or foster student achievement.

In this volume, assessment refers to the collaborative process of gathering, analyzing, interpreting, and using interpretations of various kinds of evidence to answer internally raised questions about the quality and effectiveness of doctoral programs. The results of this process verify strengths in a program as well as identify areas, structures, or educational practices that warrant improvement to enhance doctoral student learning. Focusing on internal collaboratively established criteria, rather than solely on externally established criteria, chapters describe or propose different avenues through which to develop a comprehensive assessment of doctoral programs. Collectively, these chapters expand the kinds of questions faculty and administrators have raised about their doctoral programs, the channels of inquiry they have routinely used to gather evidence about their programs, and the sources of evidence they have examined to engage in collaborative critical self-examination of and self-reflection on overall program quality and effectiveness. This book positions faculty and academic leaders of doctoral programs to promote inquiry into the educational practices that define their programs and contribute to doctoral students' learning. Specifically, it provides representative examples of program- and student-level assessment practices that prepare faculty and academic leaders to

1. formulate new questions and employ new lenses to inquire into the quality and efficacy of educational practices, structures, norms, values, and program-level expectations for student learning.

2. collaboratively articulate doctoral program goals, student learning outcome statements, and performance expectations to (a) orient and guide students through their journey toward becoming experts in their field, discipline, or profession and to (b) ground internally driven program-level and student-level assessment.
3. expand program review to include collaborative assessment of student learning—that is, students’ representation of their knowledge, abilities, habits of mind, ways of knowing, ways of problem solving, and dispositions—through direct and indirect assessment methods that verify or challenge the efficacy of educational practices. These methods provide both faculty and students with ongoing evidence of patterns of students’ strengths and weaknesses against the design and sequencing of doctoral curricula and educational practices.
4. engage in ongoing assessment of doctoral programs as opposed to periodic assessment to initiate changes in practices that directly benefit students during their educational journey.
5. listen to and respond to doctoral students as they progress through their studies as well as after they graduate when they reflect on the relevance of their studies within the context of their careers, including careers outside of the academy in business, government, and industry.
6. examine ways in which faculty-student mentoring and advising socialize and acculturate students to their doctoral program, field of study, and performance expectations for their doctoral level work, such as the dissertation or other key performance pieces.

Organization and Progression of the Book

All together these chapters represent new perspectives on and practices in assessing doctoral education that deepen the academy’s knowledge about the relevance and efficacy of educational norms and practices and thereby contribute to improving program- and student-level outcomes. Part 1, *Emerging Criteria and New Models for Assessing Doctoral Programs*, consists of four chapters that focus on developing internally designed criteria and models to assess graduate programs. Part 2, *Emerging Criteria and New Models for Assessing Student Learning Outcomes*, focuses on the rationale for including assessment of student learning in program review and identifies representa-

tive ways to assess student achievement—a valuable source of evidence about how well students achieve against the fabric of the curriculum, instruction, educational experiences, norms, and traditions.

Part 1: Emerging Criteria and New Models for Assessing Doctoral Programs

In chapter 1, “Changing Our Thinking about Assessment at the Doctoral Level,” Borkowski takes a two-part approach to providing a context for the representative chapters that follow. The first part of her chapter traces historical developments in and outside of the academy that have led to the current focus on examining doctoral programs. In the second part of her chapter she summarizes internal and external factors shaping the assessment of doctoral education, such as a focus on best practices in graduate education, and maps out key doctoral-level assessment efforts that have catapulted a change in the thinking about what constitutes success in doctoral education, including Re-envisioning the Ph.D. Project, led by Jody Nyquist at the University of Washington; the Responsive Ph.D. Initiative, organized by the Woodrow Wilson Fellowship Foundation; and the Carnegie Initiative on the Doctorate (discussed more fully in chapter 2). This chapter ends with a list of projects and studies focused on assessment at the doctoral level as well as a list of resources.

Beginning with a survey of traditional approaches to assessing doctoral programs, such as national rankings and external program reviews, in chapter 2, “The Challenges of Doctoral Program Assessment: Lessons from the Carnegie Initiative on the Doctorate,” authors Golde, Jones, Bueschel, and Walker identify the kinds of hurdles, as well as successes, they and departmental representatives from six disciplines—chemistry, education, English, history, mathematics, and neuroscience—encountered in a national project focused on assessing doctoral program quality. Among the successes of the Carnegie Initiative on the Doctorate, including documented examples of program-level changes, has been the development of a public online tool kit, KEEP, that now serves as a means to encourage openness among doctoral programs through the sharing of changes doctoral programs have made and the strategies they have used to design and implement these changes.

In chapter 3, “Using an Alignment Model as a Framework in the Assessment of Doctoral Programs,” Wulff and Nerad present a framework for for-

mative (ongoing) program-level assessment that involves a process of aligning program components—activities, students, faculty, staff, desired program outcomes, and internal and external contextual factors, such as the cultural context of a discipline. Results of this approach to program review focus faculty and administrators on broad issues of what is or is not working for students, faculty, and staff who are direct beneficiaries of this kind of inquiry. Examples of sample questions, data sources, and procedures for improvement-based study of the intersections of some program components provide direction for this multidimensional, cyclical approach.

In chapter 4, “Paths and Perceptions: Assessing Doctoral Education Using Career Path Analysis,” Aanerud, Homer, Nerad, and Cerny illustrate the importance of incorporating students’ self-descriptive data in the assessment of doctoral programs. Focusing on graduate students’ survey responses in two disciplines—mathematics and English—in the 1999 national study *Ph.D.s Ten Years Later*, authors illustrate the value of incorporating students’ views about their education in light of their actual career paths, including those in business, government, and industry. Integrating students’ responses about their doctoral education into program review prompts dialogue about the relevance of curricular content and design for contemporary societal needs and employment.

Part 2: Emerging Criteria and New Models for Assessing Student Learning Outcomes

Part 2 consists of five chapters that describe and provide examples of developments in actual assessment of student work as evidence of student learning. In chapter 5, “Using the Assessment Process to Improve Doctoral Programs,” which provides a context for chapters 6 through 9, Funk and Klomparens make the case for the importance of developing an assessment plan to examine student work along the chronology of their studies as a new component of program assessment. Specifically, this chapter describes the collaborative assessment process and identifies a range of direct and indirect methods to assess how well doctoral students integrate, transfer, and apply their learning.

The dissertation, still the major, final, written requirement and means of assessment that characterizes doctoral program achievement, is the subject of chapter 6, “Making the Implicit Explicit: Faculty’s Performance Expecta-

tions for the Dissertation.” In this chapter Lovitts presents the results of a study in which 276 high-producing Ph.D. faculty from 74 departments across 10 disciplines at 9 doctoral/research extensive universities made explicit their implicit standards or criteria for evaluating dissertations and their components. She reviews the small extant literature on dissertation evaluation, briefly discusses the methodology for her study, and presents the result of her work with Ph.D. faculty. This chapter also includes auxiliary information provided by focus group faculty on their views on issues such as the differences among students who achieve at different levels, reasons why students may or may not live up to their capabilities, and ways in which faculty do or do not help students achieve to their fullest. The chapter concludes with recommendations for how faculty can develop similar performance expectations for dissertations at their own universities and departments with strong caveats about how performance expectations should and should not be used. Miller’s case study at the end of chapter 6 provides an administrator’s perspectives on how the University of Colorado at Boulder’s participation in the Lovitts study has shaped administrative and faculty educational practices related to the dissertation. Allowing the university to observe and investigate the dissertation process from the perspectives of high-producing Ph.D. faculty in 10 disciplines, this project made clear the importance of orienting and supporting doctoral students through the writing of their dissertations. Miller lists the kinds of current changes being considered in disciplines, such as articulating disciplinary expectations and performance standards and creating discipline-specific booklets that contain expectations, performance criteria, and case studies that contribute to doctoral students’ understanding of the dissertation and the actual writing process.

Pointing to the fact that there is very little research that systematically explores doctoral student experiences with the often ill-defined dissertation, Leonard, in chapter 7, “Doctoral Students’ Perspectives on the Dissertation,” reports on her own research as part of the Lovitts study. As a doctoral student herself, she interviewed graduate students about their reactions to the performance expectations that emerged from Lovitts’s project. She reports her results on three student-focused issues related to the dissertation: (1) students’ understanding of the dissertation in their field, including their understanding of what makes a dissertation original and significant; (2) students’ concerns about their dissertation; and (3) students’ concerns about how their dissertation would be evaluated.