

DOCTORAL JOURNEYS

SCHOLARS MAKING A DIFFERENCE
IN THE WORKPLACE AND SOCIETY



UNIVERSITY OF PHOENIX WORKING LEARNER SPOTLIGHTS

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The University of Phoenix Knowledge Network produces publications on University of Phoenix working learners and the larger nontraditional student population they represent. With over 30 years of experience as an innovator and leader in higher education for working adults, the University of Phoenix is in a unique position to share real-life stories of working learners' challenges and accomplishments and to share best practices for serving this large and growing population. By presenting facts, figures, and students' perspectives, the University of Phoenix Knowledge Network promotes a deeper understanding of how working learners contribute to the workforce and society.

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PREFACE

By Jeremy Moreland, Ph.D.

Dean, School of Advanced Studies, University of Phoenix

The title “Ph.D.” once conjured images of people working in highly specialized, typically academic, fields and often with esoteric ideas and theories. Today, however, many more career paths are open to individuals with doctorates. Ph.D.s and holders of other doctoral degrees may work as advanced-practice nurses, school superintendents, high-ranking military officers and government employees, CEOs, entrepreneurs, policymakers, authors, or employees of nonprofit organizations. Graduate students, too, are no longer only people in their twenties who attend school full-time and are supported by fellowships and stipends. A growing number of graduate students are mid-career professionals who want to enhance their skills and use research methods to solve problems they identify at work or for the greater good of their communities.

Business, government, and nonprofit sectors benefit from employing individuals with the skills only a doctoral degree can confer. Doctoral graduates are well-versed in mining information, deeply analyzing data, using evidence to advance change, applying theory to practice, effectively communicating complex concepts, and pioneering new directions for research. Their knowledgeable, creative, nuanced, and evidence-based approaches to situations can be applied to solving organizational and societal problems. University of Phoenix doctoral graduates alone have tackled such problems as smoking cessation, postconflict resolution in Uganda, underemployment in Kenya, the racial achievement gap in elementary schools, the rehabilitation of injured workers, and costly miscommunications between business and information technology professionals. Doctoral graduates of the University of Phoenix have founded companies, consulting firms, and nonprofit organizations; written books and articles and presented at conferences; and taken on high leadership positions in businesses, hospitals, statewide school systems, the military, and the U.S. government.

The doctorate needs to evolve to better provide for these students and their prospective employers. Scholarly organizations have observed that many doctoral programs often only prepare students to enter academia, frequently neglecting other sectors' need for doctorally prepared leaders. These organizations recommend that doctoral programs furnish students with transferable skills that make them attractive to a variety of employers; that they allow for greater interdisciplinary learning and collaboration; that they provide students with more support and structure; and that they lessen students' time-to-degree without detracting from doctoral programs' characteristic rigor.

I am proud to say that many of these ideas are built into the doctoral programs at University of Phoenix. This book details our doctoral processes, which respect tradition while looking towards what employers and society will require in years to come, and illustrates the value doctoral graduates bring to their organizations and communities. I hope it will prove a resource for those interested in the future of doctoral education.

Phoenix, Arizona

April 2011

INTRODUCTION: WHY DOCTORAL EDUCATION MATTERS

EXECUTIVE SUMMARY

Doctoral graduates help maintain America’s global competitiveness by driving innovation in technology, medicine, business, and other fields.

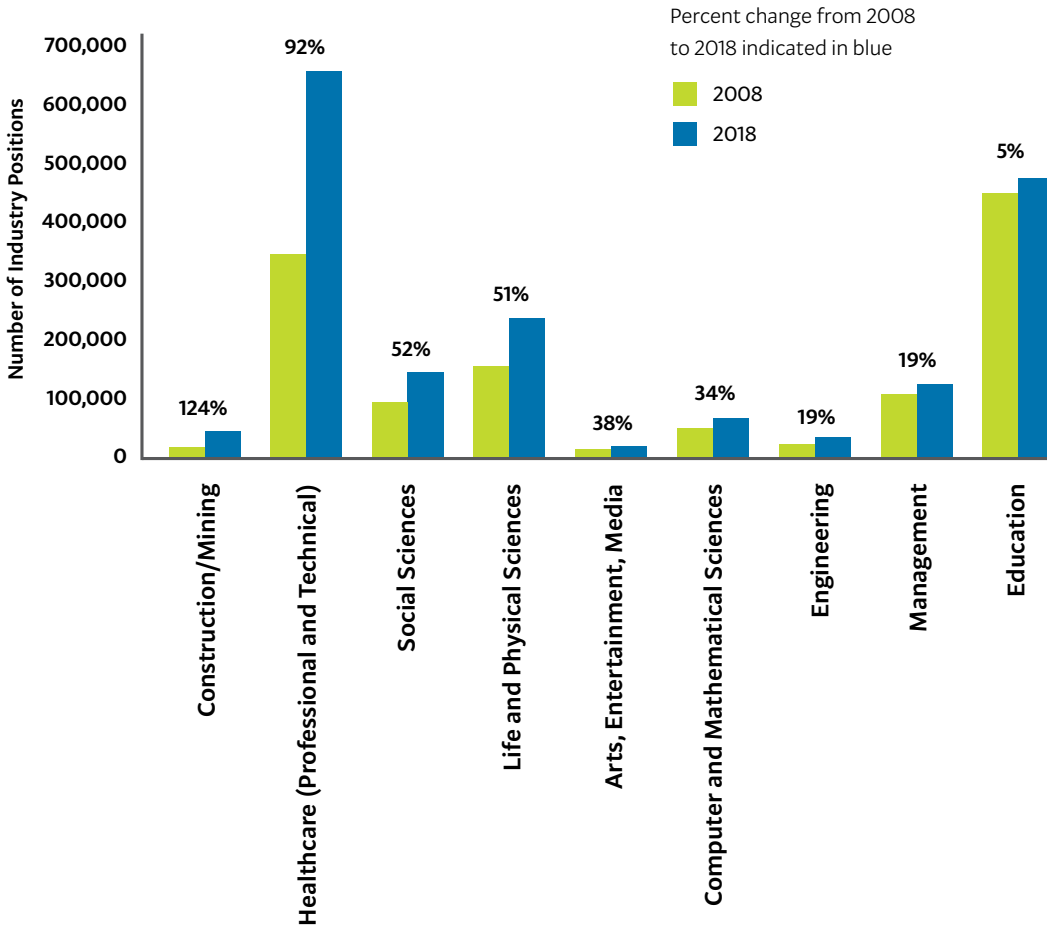
Doctoral graduates will hold key leadership positions in the emergent knowledge economy, and their specialized knowledge and advanced critical-thinking skills will be needed to solve the complex problems of the future.

America’s graduate schools are still considered the best in the world, but are facing competition from Europe, China, and India. Many international students earn doctorates in the United States, especially in the science, engineering, and technology fields. America risks losing crucial talent if too many of these students return to their home countries after graduation.

Every day, innovations developed by doctoral graduates shape our lives. We use medications—including drugs that treat cancer, AIDS, Alzheimer’s disease, high cholesterol, and depression—designed and tested by doctorally prepared scientists. We work, study, and spend leisure time on the Internet, the precursor to which, the ARPANET, was created by four engineers and computer scientists with doctorates. We use products distributed by companies such as Intel®, Broadcom®, and Genentech®, whose founders were doctoral graduates. Four of the ten most recent secretaries of state hold doctoral degrees, as do five of the six members of the Federal Reserve Board of Governors.¹

Though doctoral students comprise only 3% of all students in the American educational system,² their impact far outweighs their numbers. Doctorally prepared professionals, and the innovation and creativity they bring to their jobs, help drive the U.S. economy—and their importance will grow in the future. As critical thinkers proficient in analyzing data and generating evidence-based solutions to problems, doctoral graduates are primed

Projected Number of Jobs Requiring a Doctorate by Industry, 2008–2018



Source: Carnevale, A.P., Smith, N., & Strohl, J. (2010). *Help wanted. Projections of jobs and education requirements through 2018*. Washington, D.C.: Georgetown University Center on Education and the Workforce.

to lead in the new knowledge economy. They possess different and more highly developed skill sets than holders of bachelor's and master's degrees. Writing dissertations, which demands that they make a meaningful contribution to knowledge in their field, trains them to work independently, achieve results with little supervision, communicate complex concepts, test theories and hypotheses, write effectively, and take risks. Employers are recognizing the value of doctorally prepared employees: Jobs for doctorate holders are projected to grow by 17% between 2008 and 2018.³

Doctoral Education Is Key to America's Competitiveness

Yet doctoral education faces many problems. About half of all doctoral candidates leave school without earning a degree, some after investing years of time, money, and effort in their education. Other students take too long to graduate—some as long as 13 years—risking burnout and increased debt with each year they remain in school. Minorities, especially Latinos and African Americans, are underrepresented among doctoral candidates. Graduate schools also are not preparing students well for nonacademic jobs, even though only about half of graduates enter academia. Students leave school unaware of the myriad jobs open to them and unsure how to best present their skills to employers in the business, government, and nonprofit sectors.

It is imperative that such problems be resolved, especially as America's graduate programs are now facing competition from colleges and universities overseas. Graduate schools in the United States are still considered the best in the world: In 2008, according to Shanghai Jiao Tong University's ranking of the world's 500 best graduate programs, 17 of the world's top 20 graduate programs were American.⁴ Large numbers of international students study in the United States, attracted by American universities' reputations for excellent faculty and state-of-the-art facilities.

Yet American dominance may soon be on the wane: China and India have recently invested large sums in their graduate schools, and, since 2000, the European Union has produced more doctoral graduates in the STEM (science, technology, engineering, and mathematics) fields than the United States.⁵ Moreover, some countries are making it more attractive for doctoral students to return home rather than seek American citizenship after graduation. If talented researchers remain overseas, America's international competitiveness could suffer as other nations surpass it in technological development and innovation.

New Ideas for a More Relevant Doctorate

Fortunately, educators of graduate students—aided by studies from such organizations as the Pew Charitable Trusts, the Woodrow Wilson National Fellowship Foundation, and the Carnegie Foundation for the Advancement of Teaching—have recognized the need to update their programs. Many have committed to making these programs more socially relevant and equipping students with the skills they need to become leaders in today’s knowledge economy. Some have developed innovative strategies, including creating opportunities for interdisciplinarity and collaboration, offering entrepreneurship training, and encouraging students to develop skills that translate to multiple careers. This book describes many such best practices, as implemented by the School of Advanced Studies at University of Phoenix, in the hope of contributing to a new, more responsive direction for doctoral study.

Book Overview

Part I of this book, *Doctoral Education: Past, Present, and Future*, examines doctoral education in America, from its history to the problems it now faces to directions it may take in the future. **Chapter 1** specifies how the doctoral degree developed and what its historical implications have been. It also discusses the occasionally fraught distinction between the Ph.D. and the professional or practitioner degree. **Chapter 2** delineates problems in the doctoral field—attrition, lengthy time-to-degree, lack of diversity, poor preparation for nonacademic careers—and suggests ways doctoral education may evolve.

Part II, *The Doctoral Journey* (**Chapter 3**), describes the unique doctoral model used by the School of Advanced Studies at University of Phoenix. This model combines many features of a classic doctoral program (close one-on-one relationships between students and mentors, a dissertation that undergoes multiple levels of review) with best practices recommended by leading scholarly organizations (interdisciplinarity, collaboration, increased relevance to the workplace).

Part III, *Doctoral Pathways*, discusses doctoral programs in three fields: business (**Chapter 4**), education (**Chapter 5**), and nursing and healthcare (**Chapter 6**). Stories of University of Phoenix students and alumni illuminate graduates’ career choices and illustrate how a doctoral education can help an individual contribute to society. **Chapter 7** describes how graduates have used their degrees to make a global impact, and how military students cope with the rigors of earning a doctorate overseas.

PART I

**DOCTORAL EDUCATION:
PAST, PRESENT, AND FUTURE**



1

Origins of the Doctorate

EXECUTIVE SUMMARY

Demand for doctorally prepared employees will soon outstrip supply.

The doctorate has existed for almost 200 years. Some of its key elements—such as the concept of the degree as a course of study from which one emerges as an independent researcher and scholar—have been in place for nearly that long. Other elements, such as the idea that the dissertation should solve a problem through research and that scholars should contribute to society, came into being later on.

There are two main types of doctoral degrees. Research-oriented degrees, such as most Ph.D. degrees, train students to teach and perform research in a university setting. Professional doctorates, such as the doctor of management (DM), the doctor of education (Ed.D.), and the doctor of nursing practice (DNP) degrees, prepare students to practice within a given field at an advanced level and perform research to solve problems in society or the workplace.

Doctoral graduates' critical thinking, research, and analytical skills surpass those of master's and bachelor's degree graduates. Doctoral students are motivated by learning for its own sake and seek to become experts in their fields.

Question: How many doctoral students does it take to change a light bulb?

Answer: Only one, but it may take nine to ten years.

This tongue-in-cheek witticism, along with platitudes about academics hiding in ivory towers and lacking understanding of the “real world,” suggests the broad stereotypes many people hold about those seeking or attaining doctoral degrees. Because only a very small percentage of the American population has earned a doctoral degree, there are not enough voices to dispel the myths. In fact, doctoral graduates' inventions, ideas, and contributions have had a profound impact on society.

With increasing public attention on the potential crisis of the U.S. workforce being unprepared for the jobs of the future, now is an opportune time to take a closer look at the doctoral degree and its place in our educational system and society. The national media frequently report on the failure of the U.S. educational system to produce the

volume of educated citizens needed to fill future job openings. Although most of the attention has been focused on associate's and bachelor's degrees, the gap between the number of jobs requiring a doctorate, and citizens with doctorates available to take them, is also alarming. Job openings for doctorally prepared workers are projected to increase by 17% between 2008 and 2018 and considerably more than that in certain sectors. In the healthcare industry, for instance, 90% more jobs will require doctorally prepared employees; in the protective services industry, almost 150% will.¹

History of the Doctorate

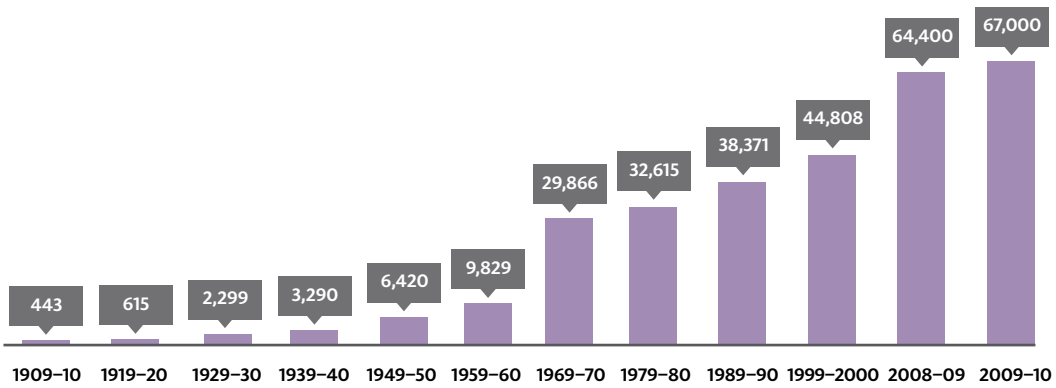
Although the purpose for the doctoral degree and the requirements for earning it have changed over the years, the basic elements of the doctorate have remained the same for over a century and a half. Earning a doctoral degree continues to be an honorable distinction—a recognition of a graduate's expert knowledge of a particular field, determination to persevere through trials, and emergence as an independent researcher and scholar.

Earning a doctoral degree continues to be an honorable distinction—a recognition of a graduate's expert knowledge of a particular field, determination to persevere through trials, and emergence as an independent researcher and scholar.

The term *doctorate* comes from the Latin *docere*, meaning “to teach.” Originally, earning a doctorate qualified an individual to teach students both knowledge and research techniques at the college level. Doctoral education in America was based on the German tradition of research universities, but it quickly became uniquely American through the role it played in fostering the study of social problems.²

Yale was the leader in graduate education, offering the first graduate course in 1814, establishing the first “scientific school” for research in 1847, and awarding the first three doctoral degrees in 1861. Requirements for the degree included completing a language proficiency test, a comprehensive examination of core knowledge in a field, and a thesis describing the results of original laboratory research. These three requirements still exist in most current doctoral programs, leading many to wonder if the basis for a doctoral degree has become mired in tradition rather than reflecting society's current needs.³

A Century of Growth: Number of Doctoral Degrees Conferred Over the Past 100 Years



Source: U.S. Department of Education, National Center for Education Statistics. (2009).



Around 1881, educational leaders realized that research results should be shared with others to facilitate problem solving. Doctoral students were expected to publish their theses and print hundreds of copies (at their own expense) to send to other graduate schools and college libraries.⁴ Over time, that tradition has evolved into large library collections and electronic databases filled with scholarly journals containing research on almost every conceivable subject. These studies are readily available to scholars associated with a university or college; however, professionals outside academia may find them difficult to access.

Since its formative years, doctoral education has grown to include study in hundreds of different fields, and doctoral educators embrace the responsibility to develop graduates who focus on problems facing society. The relationship between “town and gown”—or the community and academia—has been reinforced several times: by land grants from the federal government to build colleges, and more recently, by federal funding directed to university research on priorities in national defense, health, and science.⁵

Types of Doctoral Degrees

Reflecting the broader social need for people with advanced knowledge of complex fields, several kinds of doctoral degrees are now available. The Ph.D., or Doctor of Philosophy, once focused solely on the advanced study of philosophy, in the tradition of Plato and Socrates. Over time, universities offered the Ph.D. in a number of different fields, and the degree became associated with a research-oriented approach to deep learning in a particular field. A common misunderstanding is that people seek a Ph.D. for the sole purpose of teaching and conducting research for a university. In fact, only about half of all doctoral graduates hold jobs in academia at the time of graduation,⁶ and only 1 in 10 will work in tenure-track positions at universities.⁷

A different type of degree—a *professional* doctorate—is new and old at the same time. Historically, the word *doctor* was used to recognize learned teachers, whereas medical professionals were addressed as *physicians*. Over time, the word *doctor* became increasingly associated with those holding M.D. degrees.

Other professional doctorates share a similar focus: the intensive study of the *practice* within a particular field. Professional doctorates can be earned in education (Ed.D.), business (DBA, DM), healthcare (DHA, DHSc), and many other fields. The curriculum

for professional doctorates intentionally connects scholarly pursuits with workplace practice and issues. Professional doctorates further the tradition of performing research to solve problems instead of research for its own sake.

A newer type of professional doctoral degree prepares learners to become professionals in the practice of a variety of fields. These are considered *nonspecific practitioner degrees* and are usually tailored to a student's individual needs.

A misperception exists that the Ph.D. is the only “real” doctorate, or that a Ph.D. program produces a professional researcher, whereas a professional doctorate produces a researching professional. This is a false dichotomy, however; graduates of *both* types of programs uncover new knowledge and engage in practice.⁸ All doctorally prepared professionals must be able to teach, problem-solve, network, write, supervise or mentor, and contribute to communities.

How Many Americans Hold Doctorates?

In 2009, only 2% of all degrees awarded in the United States were doctorates.⁹ Those graduates comprise only .03% of the American population over age 25—just three people out of every 1,000.¹⁰ Even though the percentage of doctoral graduates in 2009 was small, it represented a significant increase—46%—over the number of graduates in 1999.¹¹ Still, as a country the United States is not increasing its capacity of doctorally prepared citizens. Between 1900 and 1999, the number of doctorates awarded each year as a percentage of total degrees awarded has ranged from only 1.1% in 1910 to a high of only 2.35% in 1970.¹² This flat growth rate, compared to the increase in the number of jobs requiring doctorates by the year 2018, indicates America may not be producing the experts needed to meet the increasingly complex challenges it faces in the global milieu.

What Sets Doctorally Prepared Employees Apart?

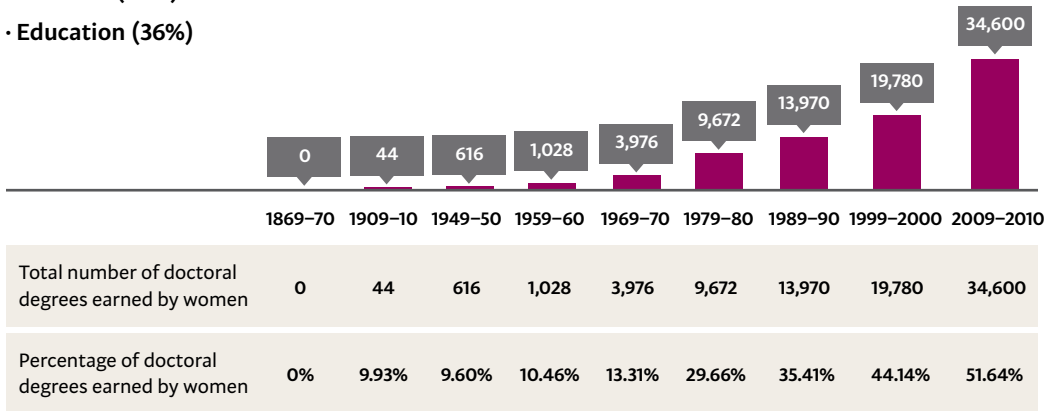
An argument might be made that many professionals teach, problem-solve, supervise employees, and lead in their fields—and excel at these tasks without holding a doctoral degree. How are doctorally prepared professionals different than the average person?

Doctoral graduates complete a curriculum that bears some similarities to a typical undergraduate curriculum, along with some distinct differences. In an undergraduate

Doctoral Degrees Earned By Women, Selected Academic Years, 1869–2010

Top fields of study with greatest changes in percentage of women graduates in 2007–08:

- **Health Professions & Related Clinical Sciences (401%)**
- **Business (62%)**
- **Education (36%)**



Source: U.S. Department of Education, National Center for Education Statistics. (2009).

class, the syllabus, textbook, and assignments define the boundaries for the learning that will take place, whereas in a doctoral course, these items represent only a starting point. Doctoral learners take responsibility for going beyond defined classwork to develop the skills needed to master the major topics and issues in their field. Because doctoral students usually have gained work experience before returning to school, lively discussion and debates ensue as students apply theories and models to practical experience.

Doctoral learners typically complete a comprehensive exam or equivalent capstone experience that allows them to demonstrate a deep and specialized knowledge of their discipline and the ability to use their knowledge to address some of the major issues affecting their field and society at large.

The independence that doctoral students develop in their coursework serves as preparation for their major capstone project, usually called a *dissertation* or *doctoral thesis*. Conducting a dissertation study may take three to 10 years from start to finish, and

must result in the creation of new knowledge. Historically, the lengthy, original research resulting in a dissertation was the primary focus of the doctorate; a sequence of coursework was added only later.¹³ Educational leaders of the past realized that knowledge was unlimited: that, instead of simply assimilating existing knowledge, students need to create new knowledge to fully understand the processes of their field.

Traditionally, the dissertation accomplished “pure” research, focused simply on understanding the world and everything within it. As with other aspects of doctoral education, this focus has changed over the years. At the close of the 19th century, two ideas provided the fuse for this transformation. One, known as the Wisconsin Idea, stipulated that universities should provide public service to the communities surrounding them.¹⁴ Around the same time, a Johns Hopkins researcher observed that a dissertation should report the results of experiments designed to discover a solution to a specific problem.¹⁵ These ideas were reinforced by John Dewey’s concept of Pragmatism in the 1930s: the belief that education should meet the demands of society.

Although some doctoral programs allow the completion of dissertations designed simply to expand knowledge (*pure* research), most institutions specify that dissertations must create solutions to real problems (*applied* research). Some dissertations have provided the basis for well-known innovations. For instance, Louis de Broglie’s Ph.D. work proposed the “disruptive” idea of wave-particle duality, one of the founding theories of quantum mechanics. The young creators of the Google search engine first published their design in a doctoral-level paper. Nobel Prize winner John Nash, portrayed in the movie *A Beautiful Mind*, wrote a very influential doctoral thesis on game theory, which became the basis of his later groundbreaking work. Herman Hollerith, co-founder of IBM, began his work with a dissertation about the use of electronically tabulated punch cards. The same year Charles Richard Drew finished his dissertation on blood preservation, he founded the American Red Cross Blood Bank.

The differences between a doctoral degree and a bachelor’s or master’s degree are critical to the progress of society. Although originally the doctorate was simply the credential needed to join a college faculty and conduct teaching and research, today it serves multiple purposes. As American society continues its transition from an industrial economy to a knowledge economy, students are earning doctorates to contribute to a better society by teaching, performing research, starting and improving businesses, founding nonprofit organizations, and crafting policy.



2

New Students, New Careers: The 21st-Century Doctorate

EXECUTIVE SUMMARY

More nontraditional students—working adults with families who want to earn doctorates to advance within a career field—are now pursuing doctoral study.

Around 50% of doctoral students in the United States leave school without earning a degree.

The average doctoral student in the United States takes eight years to complete a degree. Most experts believe this is too long.

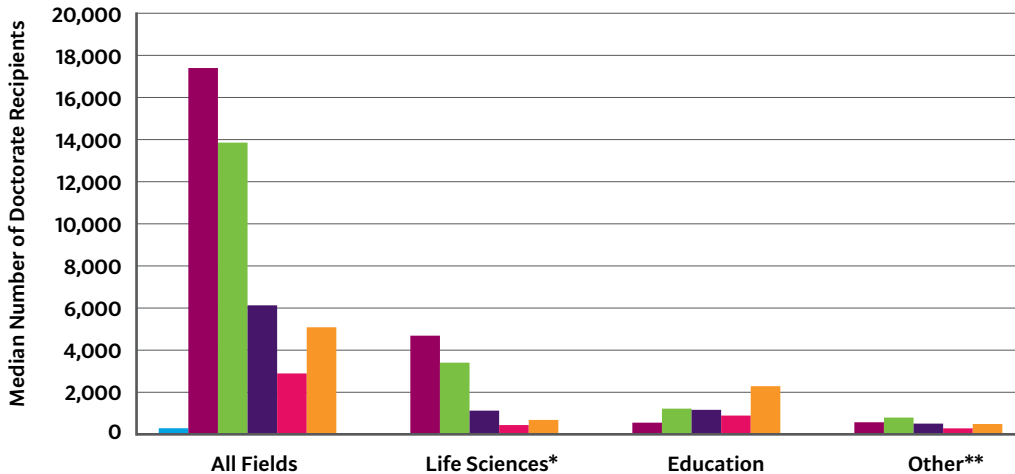
Only 50% of doctoral graduates in the United States will teach or hold research positions in academia. Graduate schools are not doing enough to prepare students for nonacademic jobs.

Experts have recommended that graduate programs become more relevant to today's workplace by promoting collaboration and interdisciplinarity, forming partnerships with businesses and outside organizations, making students more aware of nonacademic career options, and outfitting students with skills transferable to a variety of industries.

Over the past few decades, society has seen rapid change. The Internet has made instantaneous communication possible with people living in all corners of the world. Growth in minority and immigrant populations has enriched the diversity of the United States. Women have entered the workforce in large numbers, taking on leadership positions in government, business, and academia. The U.S. economy has shifted further in the direction of a knowledge economy—one that produces ideas and information rather than material goods.

Doctoral education, however, largely remains bound by tradition and habit, leading some critics to question whether doctoral programs are as relevant as they could be and whether they prepare students well for today's workforce. During the past 15 years, several organizations have launched initiatives to reassess the doctorate and chart new directions for its future, including the Pew Charitable Trust's Re-Envisioning the Ph.D. project (1998-2003),¹ the Woodrow Wilson National Fellowship Foundation's Responsive

Median Age of Doctoral Graduates, 2008



*Life Sciences includes health sciences

** "Other" category includes business and management



Source: National Science Foundation. (2009). *Doctorate recipients from U.S. universities: Summary report 2007–2008. Survey of earned doctorates*. Retrieved from <http://www.nsf.gov/statistics/nsf10309/pdf/nsf10309.pdf>

Ph.D. initiative (2000–2006),² the Carnegie Initiative on the Doctorate (2003–2008),³ and the formation of the Commission on the Future of Graduate Education (founded 2009).⁴ These organizations identified key problems facing doctoral programs, including high levels of attrition and overly long time-to-degree rates, and recommended graduate schools do more to prepare students for nonacademic careers.



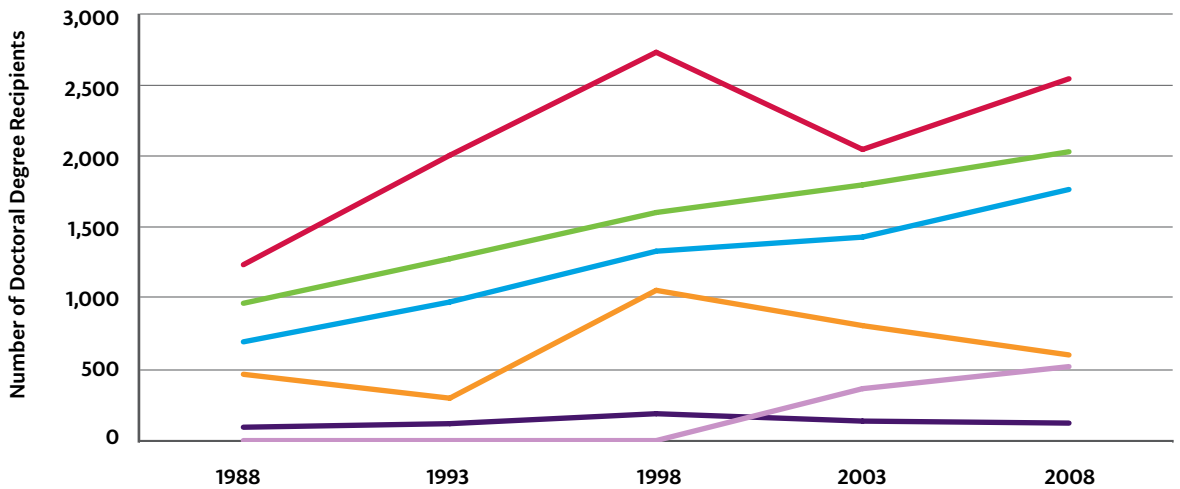
The Changing Face of the Doctoral Student

In most doctoral programs, the typical student is still a single, full-time student in her 20s who supports herself through stipends and fellowships granted by her department. As in undergraduate education, however, increasing numbers of “nontraditional” students are pursuing degrees. More students are pursuing doctorates later in life, and are doing so not to enter a career path but to achieve greater success in an industry where they already have considerable experience. These nontraditional students often have spouses or life partners, are raising children, and work outside the university setting. Many attend school part-time.⁵

Doctoral education has achieved greater gender parity. In 2007, for the first time, more women than men earned doctorates in the United States.⁶ Women now comprise 59% of all master’s and doctoral students.⁷ However, minorities are still underrepresented in doctoral programs. In the last quarter of the 20th century, fewer than 10% of doctorates were awarded to minorities.⁸

International students, at 24% of all doctoral students in the United States, form a key segment of the doctoral student body. These students, some of whom face heavy competition for seats in doctoral programs in their home countries, are attracted by the sterling reputation of American graduate programs. Many see earning a degree as a pathway to U.S. citizenship.⁹

Doctoral Degrees Awarded to Ethnic Minorities, 1988–2008



Number of Doctoral Degree Recipients Per Year

	1988	1993	1998	2003	2008
American Indian	94	119	189	137	123
Asian	1,236	2,005	2,729	2,046	2,543
Black	965	1,278	1,603	1,797	2,030
Hispanic	694	974	1,331	1,430	1,765
Multi-Race	*	*	*	365	520
Other/Unknown	466	298	1,056	808	602

- American Indian
- Asian
- Black
- Hispanic
- Multi-Race
- Other/Unknown

Source: National Science Foundation. (2009). *Doctorate recipients from U.S. universities: Summary report 2007–2008. Survey of earned doctorates.* Retrieved from <http://www.nsf.gov/statistics/nsf10309/pdf/nsf10309.pdf>.

Note: Multi-racial graduates were not tallied prior to 2003.

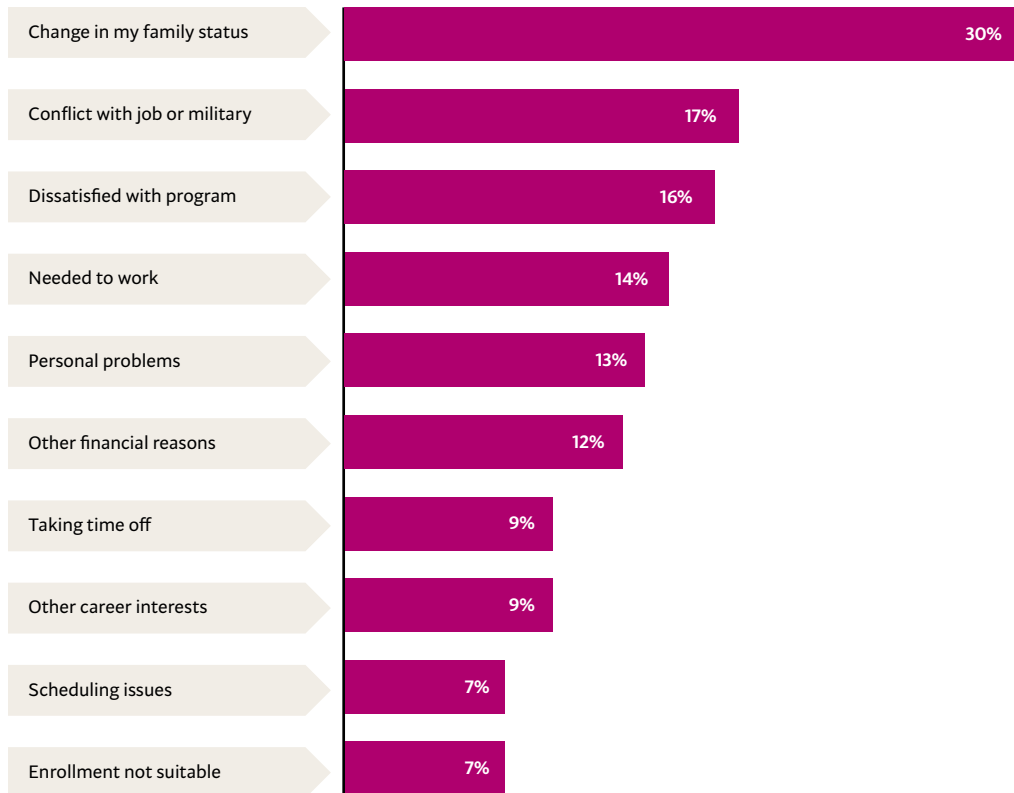
Problems in Graduate Education

Evidence suggests that graduate schools are not fully meeting the needs of this changing student population. Attrition is very high in doctoral programs—an estimated 50% of students fail to earn a degree.¹⁰ The most common reason students give for leaving a doctoral program are changes in family status (30%), followed by conflicts between schooling and work or military service (17%), dissatisfaction with their programs (16%), and needing to work (14%).¹¹ Clearly, graduate schools need to ensure that students are better funded, or allow them greater flexibility to work while attending school.

Lack of information, guidance, and support also contribute to attrition. Graduate students, studies show, are most likely to drop out during the transition phase between coursework and the dissertation, often because of feelings of isolation and being overwhelmed.¹² The Survey on Doctoral Education and Career Preparation reveals that students often do not realize the amount of time, money, and dedication a doctorate will take before enrolling.¹³ Only 45.4% of students surveyed said they had a clear understanding of the criteria that would determine they were ready to graduate.¹⁴ To help stem attrition, schools could improve mentoring, increase transparency about requirements and assessment criteria, and provide students with emotional and social support systems, such as dissertation groups and activities that create a sense of departmental community.

Doctoral candidates are also taking too long to complete their degrees. The 2005 Survey of Earned Doctorates revealed that the average time to degree was 8.7 years, ranging from a low of 5.7 years in chemistry to a high of 13.2 years in education.¹⁵ Less than one quarter of doctoral students in mathematics, the humanities, social science, and the physical and life sciences graduate within five years.¹⁶ Such lengthy times to degree imply that graduate education is not as efficient as it could be. Students risk burnout and increased debt by staying in graduate school for so long, and face economic consequences by delaying their entry into the workforce until their early to mid-30s.

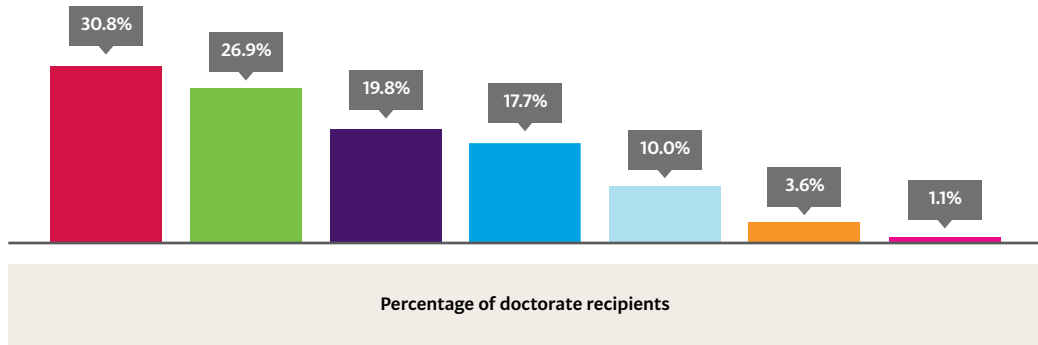
Reasons for Leaving Graduate School



Note: Respondents could select more than one category.

Source: Nevill, S. C., & Chen, X. (2007). *The path through graduate school: A longitudinal examination 10 years after bachelor's degree*. (NCES No. 2007-162). Washington, DC: National Center for Education Statistics, U.S. Department of Education.

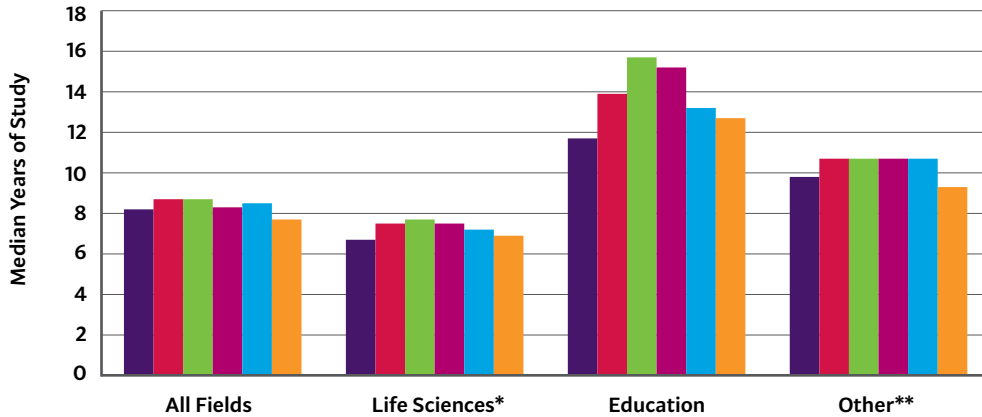
Sources of Financial Support Used by Doctoral Students, 2008



- Research assistantships/traineeships
- Fellowships/grants
- Own resources
- Teaching assistantships
- Other
- Employer
- Foreign government

Source: National Science Foundation. (2009). *Doctorate recipients from U.S. universities: Summary report 2007–2008. Survey of earned doctorates.* Retrieved from <http://www.nsf.gov/statistics/nsf10309/pdf/nsf10309.pdf>

Median Number of Years Needed to Complete Doctoral Degree, 1983–2008



*Life Sciences includes health sciences

** "Other" category includes business and management

Graduation Year



Source: National Science Foundation. (2009).

Doctorate recipients from U.S. universities: Summary report 2007–2008. Survey of earned doctorates. Retrieved from <http://www.nsf.gov/statistics/nsf10309/pdf/nsf10309.pdf>

New Directions for the Doctorate

In years past, most doctoral graduates entered academia, but today only about 50% do.¹⁷ The others hold jobs in business, industry, government, and nonprofit organizations, where they use their advanced academic training to streamline industries, perform research to test and develop new products, seek solutions to society's problems, and dialogue with people from other nations and cultures. More nonacademic positions will be open to doctoral degree holders in the future: Between 2008 and 2018, an estimated 2.5 million jobs will require an advanced degree, and the number of jobs requiring a doctorate will increase by 17%.¹⁸

Many graduate schools, however, are not preparing students for these jobs, nor making them aware that such jobs are open to them. In the Survey on Doctoral Education and Career Preparation, 63.3% of arts and sciences students said they wanted to become faculty members, and 24.1% said that they “maybe” wanted to do so. Nearly 75% said they wanted to perform research after graduation.¹⁹ These expectations may not be realistic. In many fields, especially the humanities, faculty jobs are scarce, and colleges and universities are increasingly hiring nontenured faculty (part-time instructors and adjuncts). As few as two out of 10 Ph.D. graduates in the humanities will receive tenure-track positions.

Graduate students are not getting a clear picture of their career options.²⁰ Only 45.6% of students in the Survey on Doctoral Education and Career Preparation said their schools held workshops on conducting job searches outside of academia.²¹ Advisors, who often see students as their protégés, may also be reluctant to suggest nonacademic career options to their advisees.

There are multiple ways in which graduate schools can better prepare students for a broad range of career paths, including:

Teaching transferable skills. Doctoral study is often highly specialized. Although focusing on a narrow area of expertise produces scholars who have mastered a certain subject, it does not prepare students for the competitive and ever-changing workplace outside of academia. Along with knowledge of their subject area, graduate students should develop skills in entrepreneurship, organization, leadership, ethics, communications, and project management.²² The Carnegie Foundation recommends that



students begin independent research *before* they reach the dissertation stage, which will make the transition to the dissertation less stressful and give students more opportunities for creative, original thought.²³

Along with knowledge of their subject area, graduate students should develop skills in entrepreneurship, organization, leadership, ethics, communications, and project management.

Promoting collaboration. Graduate study is often a lonely enterprise characterized by individual efforts. Today's workplace, however, is highly collaborative, and students need to acquire essential teamwork skills. Many students spontaneously form study, discussion, and dissertation writing groups, but faculty may consider assigning group projects as a more formal way to encourage students to collaborate.

Increasing interdisciplinarity. Graduate study is very much bound by discipline, even though students who work outside the academy will need to draw upon skills and knowledge from a variety of disciplines to be successful. Interdisciplinary initiatives can provide students with valuable insights into the methods of knowledge creation in other fields, and can lead to exciting new research opportunities.

Forming partnerships with stakeholders outside the university. The scholars of the Responsive Ph.D. initiative observe that time to degree is longest in fields where academic job prospects are poorest, as students in such fields have less incentive to graduate earlier.²⁴ Graduate schools need to make such students aware of job options outside academia. Several institutions have done so by partnering with businesses, government leaders, and cultural institutions to develop entrepreneurship courses, internship programs, and workshop series.²⁵

Erasing the stigma of nonacademic careers. Some departments send students the message that academic jobs are the only “legitimate” way for them to succeed. At the end of the year, they may hold receptions honoring graduates who have received academic jobs—even limited-term adjunct positions—but do nothing to celebrate those who have found work in other industries. Students need to hear that they can make equally valuable contributions to society by bringing their talents to the business, government, or nonprofit sectors. Faculty need to be better informed about career opportunities that exist for doctoral graduates to direct their advisees toward such jobs.

Conclusion

Graduate education produces the skilled critical thinkers and innovators our nation needs to remain successful—the researchers who develop medications, the technicians who keep communications networks running smoothly, the entrepreneurs who create jobs, and the faculty who instruct our youth. To replace the best and brightest minds of the retiring baby boomer generation, doctoral programs must graduate many well-prepared, multiskilled professionals. By reassessing the doctorate and what it should mean in the 21st century, graduate schools can prepare themselves to meet this challenge.

PART II THE DOCTORAL JOURNEY



3

New Directions in Doctoral Education



EXECUTIVE SUMMARY

The School of Advanced Studies at University of Phoenix has developed doctoral programs to meet the needs of working adult students pursuing terminal degrees in business and management, education, and healthcare and nursing. Its programs combine classic elements of doctoral education (dissertations and mentoring) with many innovations.

Students take classes and work with their mentors online. At specific points in the program, they attend residencies where they meet with classmates and faculty face to face, work intensively on collaborative projects, and develop their dissertations.

School of Advanced Studies programs emphasize interdisciplinary thinking and collaboration.

The School of Advanced Studies follows the Scholar-Practitioner-Leader model, which develops students' ability to perform quality research, act as advanced practitioners in their field, and demonstrate their leadership capabilities. School of Advanced Studies faculty all hold doctorates and practice in the fields in which they teach, which enables them to bring scholarly knowledge and real-world experience into the classroom.

The School of Advanced Studies was founded to meet the needs of nontraditional doctoral students—in particular, midcareer professionals looking to develop the skills necessary to enact change in their organizations. Its curricula and signature procedures were designed with these students in mind. For instance, the program takes place mostly online, to allow students to earn a doctorate while working full time and meeting family and personal obligations. Students attend residency courses on campus at strategic points in the program. The program's careful structuring enables most students to graduate within four years so that they can quickly put their skills to use in the workplace.

By innovating procedures that would best support working learners, the School of Advanced Studies anticipated many of the trends now occurring in doctoral education. Its use of collaborative learning, its emphasis on interdisciplinarity, its teaching of skills

transferable to multiple contexts, its promotion of leadership qualities, and its insistence that education be relevant and applicable to the workplace are all qualities that such prominent organizations as the Carnegie Foundation¹ and the Pew Charitable Trust² recommend that doctoral programs cultivate.

The unique methods and structure of School of Advanced Studies doctoral programs, outlined below, can serve as best practices not only for nontraditional or practitioner doctoral programs, but for many other branches of doctoral education.

Challenges and Support

Earning a doctorate is a laudable achievement—but one that requires years of dedicated study. Most School of Advanced Studies students work full-time and have family obligations in addition to their studies, making their doctoral journey all the more challenging. “Time management is an essential skill our students must master,” says April Flanagan, Ed.D. “They must be able to say ‘no’ or ‘not now’ to people who are important to them, and that’s difficult.”

Doctoral students must also contend with a course of study more challenging than any they have previously experienced. “Earning a doctorate can be very stressful—it’s much more demanding than what students went through while getting a bachelor’s or master’s degree,” says faculty member Vicki Purslow, Ed.D. Faculty member Michael Vandermark, Ph.D., adds, “Some people start the program thinking it will be easy, even though we tell them otherwise. Writing a dissertation takes serious commitment.”

University of Phoenix, recognizing the obstacles students face while earning a doctorate, has implemented numerous support systems. Students are assigned three advisors: an enrollment advisor, who provides general guidance; a financial advisor, who maps out financing options; and an academic advisor, who can clarify academic procedures and help with course selection. The University also offers online resources such as the Center for Writing Excellence, which features a writing lab that provides one-on-one assistance; and the Center for Math Excellence, which assists students with specialized academic support. The Work-Life Enrichment Program at the School of Advanced Studies offers students free, confidential online or telephone guidance about balancing school, work, and personal obligations.

Structure

Doctoral programs at the School of Advanced Studies are designed to progressively develop the competencies necessary for conducting independent research. “Our classes and processes build on one another,” says faculty member Lynne Devnew, DBA. “By the third year, students notice how the courses cumulatively foster the skills they need to write dissertations. They realize that, in the first year, they wouldn’t have had the skill set they need to fulfill the third-year requirements.” She notes that the level of discussion also rises throughout the program as students come to better understand the complexities of the subject matter.

Students are also given clear guidelines and benchmarks for each stage of the process, from initial coursework through the submission of the dissertation, so that they know what is expected of them and can make timely progress. As a result, most students graduate in about half the time it takes to earn a degree in conventional programs.

Graduate Geoffroy Roach, DBA, credits the highly structured doctoral process with keeping him motivated. “A real problem many doctoral students have is lacking the direction they need to complete the dissertation. I know I struggled with keeping focused when writing my master’s thesis,” he says. “Knowing I had to have a certain amount of writing done by a certain point in time kept me on track.”

Residencies

School of Advanced Studies students attend residencies at critical points in the program. These on-campus courses allow students to meet faculty and classmates face to face. Held in cities across the country, residencies give students the opportunity to collaborate, theorize, and socialize with classmates they have already gotten to know online. They also work one on one with faculty to discuss, plan, and troubleshoot their dissertation work. Many School of Advanced Studies graduates consider the residencies a highlight of their doctoral journey. In one survey, 91% of graduates said the residencies were a positive experience, and over 92% said they gained new knowledge and insights from their colleagues at residencies. Residencies are carefully planned to sequentially build students’ skills in preparation for research and writing.

Mentors

All students in the School of Advanced Studies choose a mentor, an experienced faculty member who guides them throughout the dissertation process, from the initial choice of topic and research methodology to the final edit of the dissertation. As practiced scholars, mentors help students craft their research projects step by step, and assist them in selecting topics that are meaningful yet manageable. “Some students enter the dissertation process with a ‘save the world’ mentality—their plans are much too ambitious,” says faculty member Linda de Charon, Ph.D. “Others are overly cautious and plan studies that are too small to be relevant. A good mentor can help both groups design studies that will result in the creation of significant knowledge.”

As practiced scholars, mentors help students craft their research projects step by step, and assist them in selecting topics that are meaningful yet manageable.

Mentors provide their students with emotional and moral support. “No one can know what it’s like to go through the doctoral process until they’ve done so,” Flanagan says. “We mentors have been down that path before, and so we are able to be students’ companions on that journey. We’re someone they can share their excitement and their frustrations with.” At the same time, mentors hold students to high standards; as Vandermark puts it, “The great challenge of being a mentor is acting as both the quality assurance person and the coach at the same time.”

Mentors ensure that the doctoral process helps students achieve their life goals. “Early in the process, I dialogue with all my students about their goals,” says de Charon. “I ask, ‘What do you want your dissertation to do for you? What doors do you want it to open?’ One student told me he wanted to become an expert in outsourcing, so I encouraged him to write an excellent dissertation on that topic. He is now considered a leading scholar on outsourcing.”

Students and mentors benefit, both intellectually and on a personal level, from the relationship they form. “One of the pleasures of mentoring is exploring exciting, still-evolving topics with each mentee,” says Devnew, who has jointly published articles with some of her mentees on their dissertation topics. “I’m sure I learn as much as my mentees from

each dissertation.” Faculty member Mark Kass, Ph.D., concurs: “My expertise is in international relations and cross-cultural management, and many of my mentees are high-level executives who also work in that field. It’s exciting to see them fashion solutions to their organizations’ problems and develop expertise.”

Committees

Besides the mentor, students also choose two faculty members to serve on their dissertation committee. Students are encouraged, when appropriate, to create an interdisciplinary committee by selecting one faculty member from outside the student’s field. This practice can make for a fruitful cross-fertilization of ideas, says Jeremy Moreland, Ph.D., Dean of the School of Advanced Studies. “It increases the potential impact of students’ research by helping them write dissertations that are meaningful to members of different disciplines,” he adds, “and teaches them to be careful in how they’re using terms and delivering information.”

Graduate Tekemia Dorsey, Ed.D., says this interdisciplinary approach improved her dissertation. “It ensured that I made my research intelligible and relevant to someone outside my field,” she says. Faculty also benefit from taking part in multidisciplinary committees, which give them new insight into how models and methodology share characteristics that cross disciplines and require them to question their assumptions about how knowledge is created.

Committees serve as an additional source of support. “My committee was superb; the committee members kept me going,” says graduate Mary Keogh, DHA. “They told me, ‘We’ve been through this, and we know you can survive it. We’re giving you constructive feedback because we want your dissertation to be better than ours.’”

Online

To best meet the needs of busy working professionals, all School of Advanced Studies programs are conducted primarily online. Students can participate in class at times that are most convenient for them by entering virtual “classrooms” that are available 24 hours a day. Faculty remain in frequent contact with students via email, instant messaging, and class message boards, and classmates meet and collaborate online.



Contrary to the perception that online education is easy, the courses that the School of Advanced Studies offers demand commitment from both faculty and students. “University of Phoenix has requirements for how often faculty check into their online classrooms and how quickly they respond to students,” says Purslow. “It’s key to building a sense of community. I make a promise to be there—my students know I am in the online classroom every morning, six or seven days a week, and that I often go back in the afternoon or evening.”

Contrary to the perception that online education is easy, the courses that the School of Advanced Studies offers demand commitment from both faculty and students.

Online courses can also allow for deeper participation, Flanagan says. “Learners can be more open in an online environment,” she says. “Online classes give students the opportunity to reflect on the material before they post responses, and they allow introverted students to offer rich and vibrant comments that they may not bring up in a face-to-face setting.” Devnew concurs, adding that online conversations mirror the give-and-take found in a physical classroom. “When I post a discussion question, I require that each student answer it and compose a substantive response to others’ posts at least six times a week,” she says. “That way everyone builds on everyone else’s answers. I act as a devil’s advocate and ask probing questions to challenge them and keep them from growing too comfortable. No one can hide: If your comments aren’t there, you won’t pass the course.”

School of Advanced Studies students form deep friendships with their classmates, even though they may only see each other face-to-face during residencies. Keogh went through the entire program with a group of friends. “The teamwork we were required to do helped forge our relationships,” she says. “Though we’re spread out across the country and the world—one of us is from the United Arab Emirates—we remain in close contact through phone and email.” Getting to know classmates from different regions, she adds, is an excellent way to network: “We all worked for different organizations, ranging from privately owned hospitals to academia to the Air Force, and we learned from each other what nursing practices were used in different sectors.”

The Scholar-Practitioner-Leader Model

To ensure that its degrees are relevant to today’s workplace, the School of Advanced Studies employs a construct known as the Scholar-Practitioner-Leader model. Students are trained not only to be scholars—knowledgeable people who perform research and seek evidence-based solutions to problems—but skilled practitioners and leaders as well. They learn not merely to create knowledge, but to apply it and use it to make decisions and positively influence others. Curricula in all programs are designed to build students’ competencies in areas that will best serve them in the workplace (teamwork, communication, leadership, organization, ethics) and are continually updated to reflect new developments in various industries.

School of Advanced Studies students are trained not only to be scholars but skilled practitioners and leaders as well.

Students are also encouraged to choose dissertation topics that are applicable to the organizations they work for. Graduates have written about such workplace issues as communication breakdowns between business sectors, lack of leadership training for civilian personnel at an Air Force base, and the relationship between employees’ task preferences and their performance. In some cases their research has been used to solve an organization’s problems.

All dissertations must also include a component showing how a student’s research applies to the field of leadership. Writing with leadership in mind encourages students to make the connection between research and leadership, and also increases the dissertation’s



appeal to professionals in other fields. Perhaps as a result, School of Advanced Studies dissertations have been popular: In 2005, one topped ProQuest's list of best-selling dissertations, and four other School of Advanced Studies dissertations rounded out the Top 10 list.³ The following year, two made the Top 10.⁴

Practitioner faculty are an important component of the Scholar-Practitioner-Leader model. The School of Advanced Studies employs over 800 faculty, all of whom have doctorates and considerable work experience in the fields in which they teach. Most faculty are leaders in their industries: Chief executive officers, Fortune 1000 executives, university presidents, superintendents, healthcare administrators, and advanced practice nurses all teach in the doctoral program. They bring valuable lived experience to the program and demonstrate how classroom learning can be applied in the workplace. Before teaching for the School of Advanced Studies, faculty undergo rigorous training in research methods, leadership tools, mentoring, and accelerated learning in an online environment.

Advantages of a School of Advanced Studies Doctorate

Although most School of Advanced Studies students had career advancement in mind when enrolling, many come to discover how personally and intellectually satisfying graduate education can be. As Purslow puts it, “The doctorate brings graduates a level of maturity and understanding one does not possess while holding a master’s degree alone.” Graduates go on to publish books and journal articles, speak at conferences, found nonprofit organizations, volunteer, lead organizations, and teach others. Many of their remarkable stories appear below and in the following four chapters.

Doctoral Success Stories

JEFF KAPLAN

Doctor of Management in Organizational Leadership, 2007

Residency Launches a Stellar Career

For entrepreneur and executive Jeff Kaplan, the doctoral residencies were the key to a new career. Kaplan, whose parents were poor, grew up sensitive to financial concerns and how the wrong kind of work could affect one’s happiness. As a young man, he used his life savings of \$1,500 to start an events company out of his garage. His small firm grew quickly and, a decade later, he sold it for over \$1 million. Kaplan then joined the global consulting firm Capgemini, where he was placed in charge of the company’s \$350 million account with Microsoft.

Kaplan became close friends with the members of his learning team, who supported one another during the most difficult stretches of the doctoral program. After two years of working with the same group of people, Kaplan was dismayed when, during the Year Three residency, he learned that all students would be placed on new, interdisciplinary teams. Though Kaplan would come to appreciate collaborating with people from outside his field, the switch led him to evaluate why he had come to the program in the first place. He recalled his dissatisfaction with some facets of corporate culture, and, he says, realized he wanted to devote himself to making workplace environments more positive and supportive.

After Kaplan graduated, he received a call from a member of his residency team who told him about an opening with Ferrazzi Greenlight, the consulting firm run by Keith Ferrazzi,

author of the bestseller *Never Eat Alone: And Other Secrets to Success, One Relationship at a Time*. Ferrazzi was so impressed by Kaplan’s credentials and his dissertation that he hired him after a single interview. Kaplan now leads the Leadership, Development, and Training branch of Ferrazzi Greenlight and manages the Greenlight Research Group, a think tank that studies the financial impact of better business relationships. He speaks regularly on the value of teamwork and networking, and contributed a chapter to Ferrazzi’s number one *New York Times* bestseller, *Who’s Got Your Back: The Breakthrough Program to Build the Deep, Trusting Relationships That Create Success—and Won’t Let You Fail*, in which he discusses University of Phoenix’s commitment to team learning.

Kaplan remains a strong supporter of the School of Advanced Studies. “The program changed my life and showed me my life’s purpose,” he says.

KEVIN GAZZARA

Doctor of Management in Organizational Leadership, 2001

ALI LAKHANI

Doctor of Management in Organizational Leadership, 2005

Graduates and Colleagues Team Up for Success

Through their dissertation research and the founding of the firm Magna Leadership Solutions, School of Advanced Studies graduates Kevin Gazzara and Ali Lakhani are changing the face of leadership. While working at Intel, Gazzara discovered that, when he had too many routine tasks to accomplish, he was less satisfied than when he was solving complex problems. He observed this pattern was also true of his co-workers and employees, and decided to make the relationship between task mixture and job satisfaction the topic of his dissertation. With the help of Mihaly Csikszentmihalyi, Ph.D., and a statistician, Gazzara developed an instrument to measure an employee’s optimal mixture of task types—a variable he named the “Task Quotient” (TQ®). He tested the instrument for validity and found, in his words, that there was “an outrageously strong relationship” between task mixture and job satisfaction.

These results represented a whole new way of thinking about tasks and motivation. Previous scholars had evaluated motivation and satisfaction in terms of tasks alone, without taking task type mixture into the equation. As Gazzara soon discovered, his findings were much in demand. Target International Trading licensed the TQ tool as a product in 2004. It now is used in workshops all over the world that enable departments to realign

from the bottom up. Employees take the TQ assessment, and then with their managers present, they “buy” and “sell” their tasks in a real-time auction format. To date, the TQ tool has been used successfully in a wide variety of companies, including high-tech, low-tech, and nonprofits.

Meanwhile, Intel’s expansion into international markets and the events of September 11, 2001 spurred Gazzara’s colleague, Ali Lakhani, to think about ways people from different cultures might learn to communicate and overcome their differences. While writing a dissertation on leadership in a global context, Lakhani realized that leadership was not a universal trait but a culturally encoded concept that varies from one society to the next.⁵ Lakhani saw that his research, which went against the prevailing paradigm of leadership as a universal construct, could be of great value to executives working internationally. He then created a tool called CALIBER™, which helps executives identify the behaviors they need to change or develop when working with people from different cultures.

In 2007, Gazzara and Lakhani, along with colleague Marlene Lundy, left Intel to form their own company, Magna Leadership Solutions, LLC. “Our main motivation for starting Magna,” Gazzara says, “was to use our own research and our intellectual property to make deep organizational and societal impact.”

When asked what advice he would give current doctoral students, Gazzara responds, “What most people don’t realize while undergoing a doctoral program is that you can use your dissertation as a springboard to take you to the next phase of your life. My advice is that you shouldn’t earn a degree just to get the title. Do it to complete what’s missing within yourself, and then you can change the lives of other people as well.”

PART III DOCTORAL PATHWAYS



4

Better Leadership Through Scholarship: Doctorates in the Business Field

EXECUTIVE SUMMARY

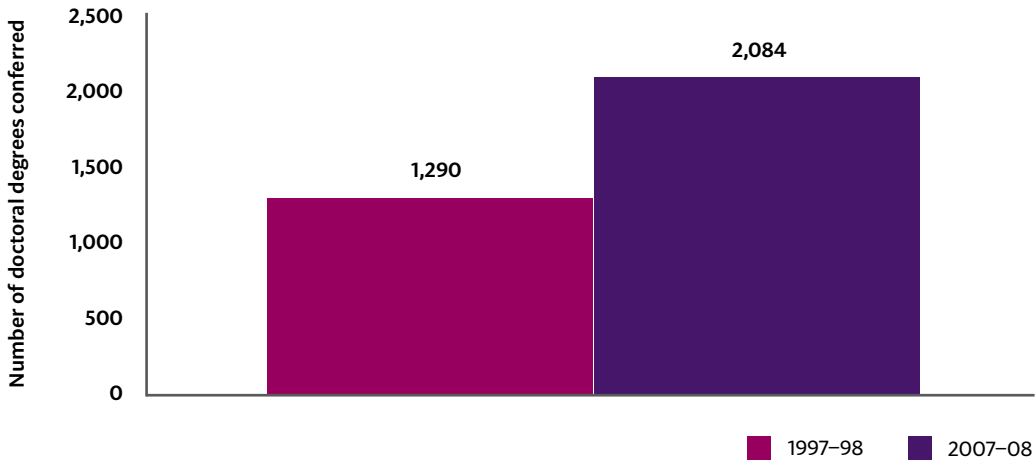
Midcareer professionals who want to use research to bring about change and solve problems in the workforce often pursue doctoral degrees. Individuals with these doctorates work in such diverse fields as nonprofit organizations, technology firms, federal agencies, and the military.

Oftentimes, mid- and senior-level executives reach a point in their careers when they want to contribute to their organizations at a higher level. They may observe a problem that requires careful study to solve, or become intrigued by an issue that has not yet received scholarly attention. They may also want to develop their leadership, critical thinking, and decision-making skills to bring about needed change in their companies or to help them adapt or grow. Other executives may want to move into a new field, or accentuate their careers through writing, teaching, or consulting. Doctorates in business and management can give these professionals the knowledge and skills they need to translate theory into practice and bring research to bear on the problems they face in the workplace.

University of Phoenix offers three doctoral degrees in business and management. The *doctorate in business administration* (DBA) teaches students who are already leaders in the business world how to identify and solve business problems; perform systems-based, financially justified analysis to research operational issues; apply technology-enabled solutions; and formulate ethical practices that improve upon industry standards. DBA students complete coursework in such topics as finance, optimizing organizations, Internet-based global business, transformational leadership, the customer relationship, and risk management.

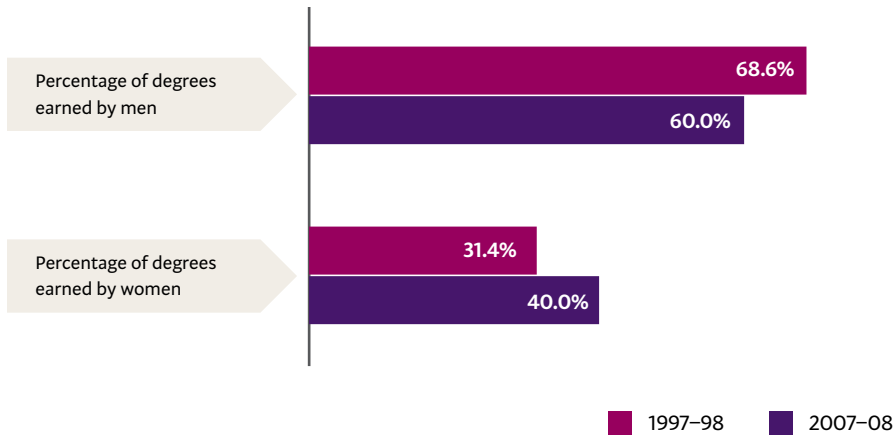
The *doctor of management in organizational leadership* (DM) degree prepares students to become senior-level leaders. They learn to influence change and lead organizations in multiple fields, including business, nonprofits, and the public sector; apply leadership models in practice to promote global and social responsibility; and increase productivity while using fewer resources. DM students complete coursework in such areas as the philosophy of management, organizational theory and design, systems management, group dynamics, and organizational diagnosis and intervention.

Doctoral Degrees Conferred in Business in the Academic Years 1997–98 and 2007–08



Source: U.S. Department of Education, National Center for Education Statistics. (2008). *Table A-42-1. Number of master's, doctoral, and first-professional degrees awarded by degree-granting institutions, percentage of total, number and percentage awarded to females, and percent change, by selected fields of study: Academic years 1997–98 and 2007–08.* Retrieved from <http://nces.ed.gov/programs/coe/2010/section5/table-gfs-1.asp>

Percentage of Doctoral Business Degrees Conferred to Men and Women in 1997–98 and 2007–08



Source: U.S. Department of Education, National Center for Education Statistics. (2008). *Table A-42-1. Number of master's, doctoral, and first-professional degrees awarded by degree-granting institutions, percentage of total, number and percentage awarded to females, and percent change, by selected fields of study: Academic years 1997–98 and 2007–08.* Retrieved from <http://nces.ed.gov/programs/coe/2010/section5/table-gfs-1.asp>

The *doctor of management in organizational leadership with a specialization in information systems and technology* (DM/IS&T) degree enables students to understand the scope and impact of information systems and technology from organizational, industry-wide, and global perspectives. Students complete coursework in such topics as information systems strategy and leadership; information technology (IT) for teams; knowledge worker information systems; partnership and industry information systems; and global information systems management.



Doctoral Success Stories

The following University of Phoenix graduates have used the skills they developed by pursuing a doctorate to create positive change for their organizations.

ARLEN “KEN” GRIFFEY

Doctor of Business Administration student

Crafting a Leaner Space Program

Arlen “Ken” Griffey, a senior NASA official working out of Stennis Space Center in New Orleans, is one University of Phoenix student striving to make government agencies more efficient and cost effective. Griffey manages the National Center for Critical Information Processing and Storage (NCCIPS) project—a multiyear, large-scale effort in which NASA, the Department of Homeland Security, and other agencies are tasked with streamlining operations by consolidating some of the nation’s critical technology systems. Two buildings at Stennis have been earmarked to house interagency IT data systems, network connectivity and disaster recovery applications, and other resources. Although the total projected cost of NCCIPS and its related transition and investment costs have not yet been determined, Griffey says his NCCIPS discovery team report currently estimates

NCCIPS investments from fiscal years 2005 through 2010 to be between \$248.5 million and \$359.75 million. He administers a \$30 million annual operating budget and will be in charge of approximately 200 contractors and 10 government employees. “This is the kind of project responsibility that comes once in a lifetime,” he says. “It’s a high honor and I am humbled that NASA has chosen me for such a difficult yet important job.”

Griffey credits his ability to take on such challenges to his work experience and education. As a senior leader at NASA, Griffey, a husband and father to four grown children, accepted several executive and support service positions at the NASA Shared Services Center, established in 2004. In those roles, Griffey, a member of American Mensa and recipient of more than a dozen government awards, was responsible for business development, IT management, and a host of other specialized skills.

Director of Center Operations Mark Glorioso, who has worked with Griffey for years, says that Griffey’s doctoral studies have changed the way Griffey approaches his work. “He’s much more capable now of viewing the NCCIPS project from multiple vantage points, and his awareness of what drives others to make the decisions they do has improved,” Glorioso says. “He shows less frustration with conflicts, and now sees them as an inevitable part of the job and works through them with everyone’s best interests in mind.” Griffey also says that the doctoral process improved his sense of structure, making him a more efficient manager who carefully frames problems and maps out solutions. “The planning skills I developed over the course of the program have been very helpful to me, especially when working with scientists and engineers who value structure,” he says. Griffey credits the team assignments he completed as part of the doctoral process with improving his communications skills, and thanks his mentor, Ruby A. Rouse, Ph.D., for driving him to excel by setting high standards. “Working with Dr. Rouse has been one of the most enriching educational experiences I have ever had,” he says. She, in turn, has high praise for him: “Ken embraces his work at NASA with the same vigor he does the research process. It’s no wonder he is a success.”

MICHAEL R. DEIS

Doctor of Management in Organizational Leadership, 2010

Developing Leadership in the U.S. Air Force

“Getting a doctorate had always been one of my life goals,” says Michael R. Deis, deputy director at the Directorate of Air, Space, and Information Operations in the Air Force

Materiel Command at Wright-Patterson Air Force Base in Ohio, of his decision to earn a doctoral degree from University of Phoenix. By graduating in 2010, Deis not only made a long-held dream come true, but also ensured that he would be able to contribute even more strongly to his longtime employer, the U.S. Armed Forces.

A Vietnam veteran, Deis served in the Air Force for 23 years, both on active duty and as a reservist. He has over 25 years of experience as an engineer and executive working in research, development, and test and evaluation of U.S. military programs, and now works for the Air Force as a civilian employee.

“I knew there would be a lot of work involved, but I was still surprised at the amount of time and effort I had to put into the program.”

Deis, who holds two engineering degrees, says that he found the doctoral program at University of Phoenix more challenging than he had expected. “I knew there would be a lot of work involved, but I was still surprised at the amount of time and effort I had to put into the program,” he says. “The program was more rigorous and stringent than anything I experienced in a traditional university setting.” Also difficult, Deis says, was making the time commitment the dissertation required: “I had to stop doing some things I really loved, such as coaching and refereeing soccer.”

For his dissertation, Deis chose a topic that he hoped would prove useful to his employer: leadership among civilian employees in the Air Force. While gathering data, he discovered that many civilian employees did not receive leadership training until very late in their career, unlike military personnel, who are trained to lead soon after they enlist. This was certainly true of his own career, Deis says: “My first true leadership development took place five years *after* I became a supervisor leading a fairly large organization.” Deis brought his findings to the attention of Air Force leaders with the recommendation that they introduce leadership training much earlier in civilian employees’ careers. They are now implementing his ideas, he says.

Deis believes that his doctorate was a contributing factor in his promotion to the Senior Executive Service pay grade (SES). SES personnel hold key positions in federal agencies, ranking just below presidential appointees. SES rank has been likened to that of a general or admiral in the armed forces.

Deis, who says he would like to teach at the doctoral level some day, notes that the doctoral program taught him a great deal about the theoretical side of leadership and how theory can be put into practice. “I want to put that knowledge to work and have a positive impact on the Air Force,” he says.

RON SMITH

Doctor of Management, 2009

From the Barracks to the Boardroom

“People seek education at different points in their lives,” says Ron Smith, a senior vice president and director of the defense program at CIBER, Inc, a global IT consulting, services, and outsourcing firm. “We’re not all ready to go to college right out of high school.”

“People seek education at different points in their lives. We’re not all ready to go to college right out of high school.”

Smith’s career path proves his point. As a young man growing up in a small Mississippi town, he was more interested in having fun with friends than studying, so his father told him to enter the workforce instead of going to college. Smith joined the Army Reserve and then chose to go on active duty. “I decided to go back into the Army for two years, and somehow it turned into 22 years,” Smith said. While in the service, he earned his bachelor’s and master’s degrees.

Smith retired from the Army on a Friday in 1996 and started a civilian job the following Monday. “My retirement lasted two full days,” he laughs. “I’ve been working ever since.” He encourages the 500 employees he manages to work to the best of their capabilities. “I strive to excel, not only for myself, but also for my team,” he says.

CIBER’s clients include the U.S. Army and Air Force; the U.S. Centers for Disease Control and Prevention; corporations; universities; and numerous state, county, and city governments. In 2010, CIBER Federal received a \$26 million contract to provide IT services, as part of the Dynetics team, to NASA’s Marshal Space Flight Center. Smith was selected to lead the Dynetics team transition.

Smith's wife Sandra, who had always been passionate about education, encouraged him to pursue a doctorate. "The doctoral curriculum was more challenging, and more rewarding than I had anticipated," he says. "With Sandra's help and the encouragement of my mentor, Linda S. Wing, Ph.D., I made it through."

"Having a doctorate changed the way I view the world and other people," he adds. "It just reawakened me to life. It's a great feeling walking into the office in the morning and seeing the diploma on the wall."

GEOFF ROACH

Doctor of Business Administration, 2008

Angel Investing . . . And All That Jazz

Finance and jazz music may sound like two incompatible realms, but Geoffroy Roach, CEO of the San Jose Jazz Festival and a 30-year veteran of the technology industry, says there are many parallels between them. "Putting on a concert is like doing a product launch," says Roach, who fronts an eight-piece jazz band called Octobop. "You're taking a risk and assuming that you'll have a return on either an artistic, financial, or community level—ideally, on all three levels."

When reading the scholarly literature in preparation for his dissertation, Roach discovered that little research had been done on angel investment groups, even though angel investors—high net worth individuals who invest money in startup companies—do a great deal to drive the economy. Roach studied the internal rate of return on investments of an angel group to which he belonged, and found that its investments generated higher returns than could have been obtained from the broader equity market alone. Angel groups and networks, he determined, substantially reduce the cost of investing, as the formalized processes angel groups use create better information flow, helping them reduce the rate of bankruptcies and closures in their portfolios.¹

One of the most pleasant parts of the doctoral experience, Roach says, was the willingness of even high-profile people to help him with his research. For instance, he contacted Bill Sharpe, creator of the Capital Asset Pricing Model—one of the fundamental models of finance. "Sharpe's a Nobel Prize winner, and when I told him what

I was doing, he spent three hours talking to me!” Roach says. “It’s great to be able to reach out to those kinds of people.” Earning a doctorate, he says, has improved his understanding of finance. “Having been a CEO and an executive at high-tech firms, I’m accustomed to talking in strategic terms about building companies. Now I can speak from a financial perspective.”

Roach is able to put his skills to good use both on the job and while helming the San Jose Jazz Festival. Seeking out investment opportunities and finding the right mix of bands to appear at the festival both require him to make savvy decisions. He likens running the festival to managing a stock portfolio. “We’ll include some bands that have great artistic merit, some that are breaking new musical ground, and some that are fun and will have 5000 people swing dancing and having a blast,” he explains. “We’ll try to balance the surefire returns—the bands we know will sell a lot of tickets—with some up-and-coming bands nobody’s ever heard of.”

Economic growth and artistic growth are very much alike, Roach notes: “Both forms of growth are driven by innovation. Entrepreneurship is a way of owning that innovation—much in the way that, when you sponsor an exciting new band, all of a sudden its music becomes part of you.”



5

Using Knowledge to Improve America's Schools: Doctorates in Education

EXECUTIVE SUMMARY

Teachers who want to move into administration or teach at the university level often seek doctorates in education. Graduates may work as policymakers, nurse educators, college faculty members, deans, or independent consultants.

Educators in the United States face myriad problems and challenges. Sixty-eight percent of eighth graders do not read at grade level, and American children score poorly in math and science compared to those in other industrialized countries.¹ Twenty-nine percent of high school students do not graduate on time, and barely half of African American and Latino students graduate with their cohort.² Teachers and administrators often find themselves at the center of politically charged debates about high-stakes testing, prayer in public schools, sex education, special education, vouchers and charter schools, and other issues. They must meet the needs of an increasingly diverse student body while coping with underfunding, limited resources, aging school facilities, and high teacher attrition. Strong leadership is needed to solve these complex problems. Doctoral programs in education—both the practice-oriented Ed.D. and the research-oriented Ph.D.—can help prepare educational leaders to propose and implement evidence-based solutions and make their schools more equitable, effective, and harmonious.

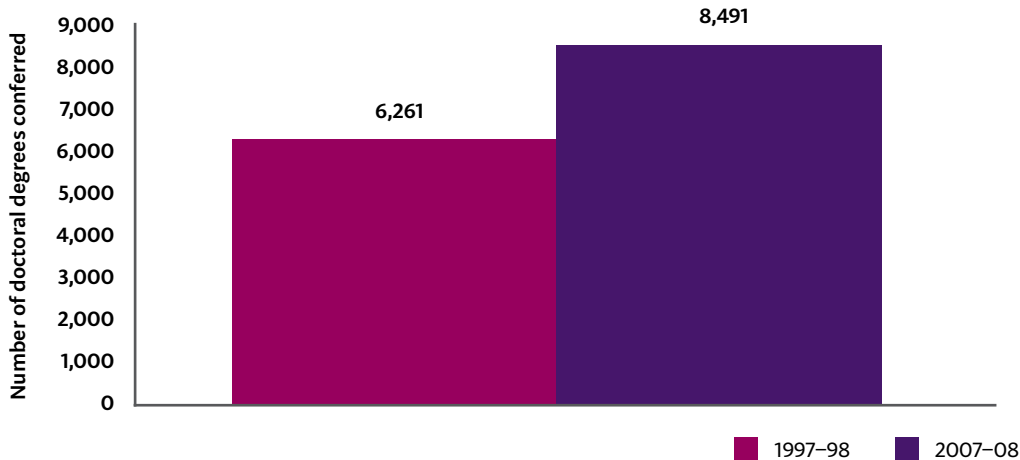
Doctoral Students in Education

Many students who pursue doctorates in education are teachers who want to move into administrative positions as principals or superintendents or find work in curriculum development. Others use the degree to supplement their jobs by publishing, consulting, or teaching at the college level. Some students earn a doctorate to transition into education from a different field. “One of my mentees is pursuing the degree in order to prepare for missionary work in her native country of Vietnam,” says School of Advanced Studies faculty member April Flanagan, Ed.D. “She works in the manufacturing field, but has always dreamed of helping others in a more hands-on fashion.”

Doctoral Degrees in Education at University of Phoenix

University of Phoenix offers four terminal degrees and one post-master’s certification in education. The *doctor of education in educational leadership* (Ed.D.) degree teaches

Doctoral Degrees in Education Conferred in the Academic Years 1997–98 and 2007–08

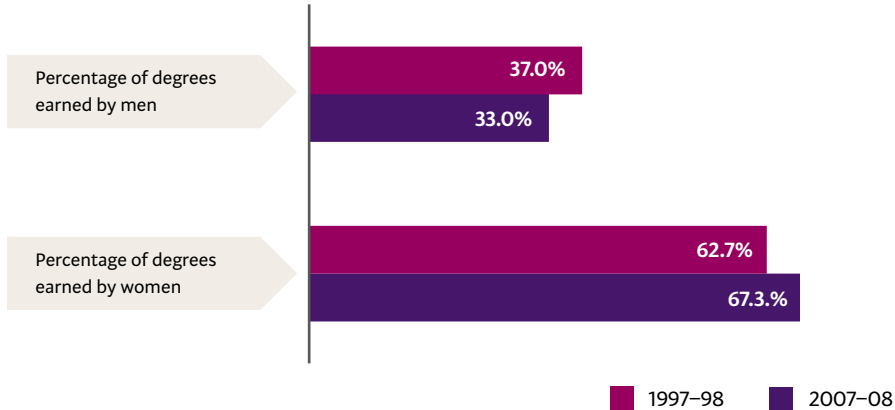


Source: U.S. Department of Education, National Center for Education Statistics. (2008). *Table A-42-1. Number of master's, doctoral, and first-professional degrees awarded by degree-granting institutions, percentage of total, number and percentage awarded to females, and percent change, by selected fields of study: Academic years 1997–98 and 2007–08.* Retrieved from <http://nces.ed.gov/programs/coe/2010/section5/table-gfs-1.asp>

students the skills used by high-performing principals, deans, and superintendents to prepare them to lead complex educational organizations. The degree emphasizes the use of analytical, critical, and innovative thinking to improve the performance of educational institutions. Students complete coursework in such areas as instructional leadership; planning and leading change; evaluation and assessment methods; lifelong learning; and the ethical, economic, and legal contexts of education.

The *doctor of education in educational leadership with a specialization in curriculum and instruction* (Ed.D./CI) degree trains students to strategically manage and lead processes related to curriculum, instruction, and assessment. Students learn to design innovative curricular models to improve student outcomes. They take courses in such subjects as curriculum and instructional design, developmental and learning theories, the assessment of learning, program evaluation, and the supervision of curriculum and instruction.

Doctoral Degrees in Education Earned by Men and Women, 1997–98 and 2007–08



Source: U.S. Department of Education, National Center for Education Statistics. (2008). *Table A-42-1. Number of master's, doctoral, and first-professional degrees awarded by degree-granting institutions, percentage of total, number and percentage awarded to females, and percent change, by selected fields of study: Academic years 1997–98 and 2007–08.* Retrieved from <http://nces.ed.gov/programs/coe/2010/section5/table-gfs-1.asp>

Students in the *doctor of education in educational leadership with a specialization in educational technology* (Ed.D./ET) degree study the analytical, planning, implementation, and evaluation processes necessary for implementing educational technology. Courses in this degree program cover such topics as educational technology research, system analysis and design, instructional media and design technique, and integrating technology into curricula.

The *doctor of philosophy in higher education administration* (Ph.D./HEA) degree presents students with theoretical and practical approaches to the question of how education can develop stronger communities and a knowledge-oriented workforce. Students build a rich, nuanced, and holistic understanding of higher education administration and learn strategies for leading educational institutions through transition. Coursework includes the history and philosophy of education; the social, political, and ethical aspects of higher education; organizational theory; student development theory; and the finance and economics of education.



The *educational specialist* (Ed.S.) degree consists of advanced training but is not a doctoral degree and does not require learners to complete a dissertation or attend residencies. This post-master's degree helps students refine their educational leadership qualities and sharpen their analytical and critical thinking skills to improve the performance of their educational institutions. Students complete coursework in the supervision of curriculum and instruction, curriculum theory, instructional models, evaluation and assessment, the legal and economic context of education, and ethics and values in learning organizations.

Doctoral Success Stories

University of Phoenix graduates with doctorates in education and students pursuing such degrees are leading change, developing policy, and creating innovative programs to help students succeed. Below are a few of their stories.

MYRA MUNROE

Doctor of Education in Educational Leadership, 2009

From Teacher to Policymaker

Myra Munroe has moved up the educational and career ladders, going from elementary school teacher to administrator to a maker of statewide policy. As a teacher of first, second, and third graders and emotionally impaired middle school students, Munroe

frequently participated in committees and curriculum development teams, prompting her principals to advise her to earn a master's degree. After she received a master's in educational leadership and worked as an elementary school principal and facilitator of an early childhood reading program, her superintendent suggested getting a doctorate would enable her to work to her fullest potential.

Munroe lived in a rural area, and her local university would only host a doctoral program in education if 15 people were willing to attend. The cohort of 15 never came together, so Munroe opted to attend University of Phoenix.

“My mentor was critical to my growth as a scholar, and I now think of her as a colleague.”

The doctoral program, Munroe says, was rigorous but rewarding. “The scholar-practitioner-leader model sets University of Phoenix apart,” she notes. “You can use those three capacities no matter what level you’ve reached in your career.” She also credits her mentor, Patricia Shopland, Ed.D., with fostering her success. “My mentor made sure I clearly communicated my thought process and intent in my dissertation, and she provided me with support and encouragement,” Munroe says. “She was critical to my growth as a scholar, and I now think of her as a colleague.”

For her dissertation, Munroe studied emotional intelligence among educational leaders. She discovered that administrators needed to focus more on communicating the mission and vision of their schools and providing tangible and relationship-based incentives (support, conversations, and praise) to teachers and students.³ “Many of the leaders I spoke with didn’t know how to build relationships and teams in a school setting,” she says. “They didn’t realize building relationships with staff could help improve rigor and student achievement.” Administrators, she adds, need to converse with teachers to determine what support teachers need and how they feel about their jobs, and to observe struggling educators in the classroom to better mentor them.

Munroe has presented her findings at a national conference hosted by Learning Forward, a professional organization that promotes school improvement through staff development, and during the leadership section of Michigan’s statewide Department of Education

School Improvement Conference, and recently became a national trainer of Leading at the Speed of Trust, a workshop series that teaches professionals how to build trust in the workplace. She has also trained school personnel on emotional intelligence, and makes the theory part of her everyday life. “Emotional intelligence is a learnable skill, and one I work daily on developing,” she says. “I live it; I breathe it; it’s part of who I am.”

After graduating, Munroe became an instructional specialist for the Michigan Association of Intermediate School Administrators and the Statewide System of Support Combined Technical Assistance Grant program. “Working in the statewide system allows me to use research to impact policy,” Munroe says. “I study ways to best evaluate schools and implement evidence-based interventions.” Her doctorate, she notes, has led to a satisfying career: “Right now, I’m exactly where I’m supposed to be.”

TEKEMIA DORSEY

Doctor of Education in Educational Leadership, 2006

Creating Better Futures for At-Risk Youth

During the course of her doctoral program, Tekemia Dorsey remembers thinking, “After I graduate, I want people to say, ‘That’s Dr. Dorsey. She is giving back to her community.’” Through her doctoral research and subsequent work with youth in the Baltimore area, Dorsey has done just that.

Dorsey’s dissertation topic emerged from her own life experience. When her son was attending elementary school in Maryland, Dorsey became interested in the No Child Left Behind Act and the standardized tests it used to determine schools’ effectiveness. During her research for her dissertation, Dorsey found that, in Maryland’s elementary and secondary schools, there was a large gap between the scores of White and Asian children and those from other minority groups.⁴

To further investigate this gap, Dorsey conducted a phenomenological study, interviewing teachers from three Maryland school districts. Most of these teachers, Dorsey found, felt that No Child Left Behind set unrealistic standards for schools. Though they believed that the legislation was well intentioned, they believed it did not take into account the fact that children emerged from widely varying socioeconomic backgrounds and received varying levels of support from their parents, making it unlikely that they could

all reach equal levels of skill attainment. Dorsey concluded that systemic problems, such as large classes, overworked teachers, unequal access to technology and resources, and lack of parental involvement were largely to blame for the achievement gap. One way individual schools could help close the gap, she wrote, was by improving communication between teachers and administrators. Many teachers told her that they were not receiving adequate support from administrators and that administrators made policies without consulting them. They said they did not feel prepared to teach students from diverse backgrounds, and that more in-depth diversity training would be helpful. Dorsey also found that many teachers created ad hoc methods for tutoring students who were falling behind academically, and often gave up their own free time to do so. She suggested that schools formalize methods for identifying and remediating struggling students.

Dorsey's doctoral studies opened up multiple career paths. She used the data she gathered for her dissertation to develop a leadership curriculum for elementary school children, which is now used by two Baltimore-area schools. She also founded a publishing company, CCC Publishing; authored two books based on her dissertation and two children's books about leadership; and started a consulting firm, The Creative GRP, LLC, which provides research support to students, faculty, and companies. Dorsey hosts an online radio show focused on youth, education, and leadership, which airs Monday nights on the ArtistFirst Radio Network.

Recently, the City of Baltimore and Mayor Stephanie Rawlings-Blake partnered with The Creative GRP to name 2011 The Year of the Youth in Baltimore. The city will host a yearlong youth empowerment retreat designed to foster leadership among at-risk youth. Based on Dorsey's leadership curriculum, the program will include workshops, community service initiatives, mentoring programs, and training opportunities. "Children today are faced with so many problems—including poverty, peer pressure, bullying, and academic difficulties," Dorsey says. "I hope my program can provide them and their parents with some solutions."

HAZEL DOWNING

Doctor of Education, 2010

A Nurse Leader Emerges from Poverty

"Knowledge is power," Hazel Downing says. "It takes you places you never thought you should go." Her education took her from the slums of Bombay to a position as a beloved

professor and expert critical care nurse in Hawaii. Downing grew up in a one-room house, and her family struggled to get by on very little. She earned an RN degree—partly to lift herself out of poverty, and partly out of a love for nursing (“I feel passionate about bedside nursing,” she says) and worked as a nurse in New York City for several years.

“Knowledge is power. It takes you places you never thought you could go.”

In 1997, she received a master’s degree in nursing from University of Phoenix. “That degree opened up many doors for me,” she says. “It enabled me to both teach and work as a clinical specialist.” She began teaching nursing at Hawai’i Pacific University in 2001 while simultaneously working at the intensive and critical care units at Kuakini Medical Center. Downing was awarded the Hawai’i Pacific University Trustees’ Award in Teaching Excellence in 2007. The students who nominated her described her as “inspirational,” “compassionate,” “caring,” “generous,” and “knowledgeable.”

Downing chose to attend University of Phoenix for her doctoral degree so that she could complete a doctoral program online while teaching, practicing nursing full time, and raising children. She wrote her dissertation on job satisfaction among clinical care nurses.

Downing was chosen to speak at the 2010 doctoral graduation ceremony, where she told University of Phoenix graduates, “I inspire you to take that extra step, go that extra mile, and do not let anyone or anything deter you from doing what is good. It is when we make a difference to others with little means that we accomplish the greatest things.”

HÉLÈNE SAVARD

Doctor of Education in Educational Leadership, 2006

Preparing Tomorrow’s Environmental Diplomats

“You can’t have healthy people without healthy ecosystems,” says Héléne Savard, a professor at the School of Environmental and Natural Resource Sciences at Fleming College in Peterborough, Ontario. For her 2006 doctoral dissertation,⁵ Savard combined her interest in the emerging field of ecohealth with Fleming’s distinctive college-community-based (CCB) program in ecosystem management—an initiative that sends undergraduates out into the community to work with environmental professionals to produce original research or other products that will benefit the community. Savard’s

research helped Fleming refine its program, and also contributed to the launch of similar programs as far afield as the United Arab Emirates, where she served as acting dean and founder of the School of Environment and Health at the Canadian University of Dubai.

“A person has to go into the dissertation with some momentum,” Savard says. “I pursued the doctorate because I wanted to make a difference personally, professionally, and intellectually, and because I wanted to produce a substantial contribution to ecosystem leadership.”

Savard decided to make such a contribution by critically examining Fleming’s CCB program, which she had been involved with since 1996. This program requires students to work with members of the community to produce an ecosystem management product, such as a research paper, manual, or action plan. Students have partnered with farms, parks, zoos, museums, cemeteries, hunting and fishing organizations, and town and provincial governments, and have completed such projects as planning and hosting an alternative energy symposium for the community and surveying forest tracts using a GPS for an interpretive trail project. The students bring needed manpower and resources to environmental organizations while gaining valuable networking and skill-building opportunities.

Savard studied the CCB program with an eye to how it helped stakeholders solve natural resource conflicts related to ecohealth. She developed a new framework for resolving such conflicts through collaboration, and disseminated this framework through an article in the *EcoHealth Journal*. Savard brought her expertise to the newly founded Canadian University of Dubai, where, serving as acting dean and consultant, she developed an associate’s degree program in food health and safety, and bachelor’s degree programs in health and safety and health and the environment.

Savard is optimistic about the future of the CCB program. “With training, our graduates will be able to resolve conflict with greater ease,” she says. “They learn to dialogue with all the stakeholders involved in resource conflicts, from the big companies down to the little old lady who needs field bark for her knitting. We teach them to consider the consequences of their actions, not just upon the present, but upon people living seven generations from now.”



6

Healing at a Higher Level: Doctorates in the Healthcare Field

EXECUTIVE SUMMARY

Doctoral degrees in healthcare administration prepare professionals to meet the challenges of today's complex healthcare industry. Doctorates in nursing train nurses for careers in such fields as advanced practice, research, and university teaching.

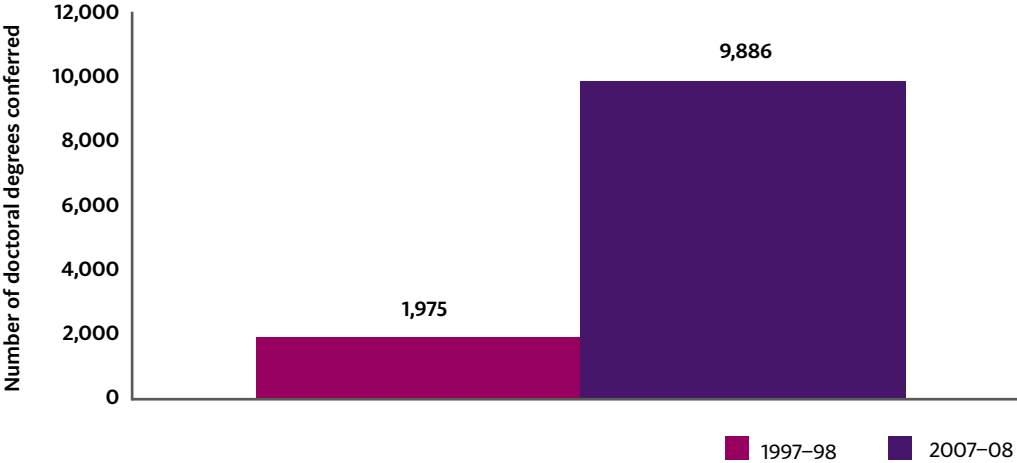
The healthcare field has become more sophisticated and challenging in recent decades. The aging and diversification of the U.S. population, the rapid rate of technological innovation, the dramatic increase in the amount and availability of medical and scientific data, the rise of managed care, and the introduction of new government policies all have made healthcare professionals' jobs more complex. Healthcare administrators must draw upon such diverse disciplines as medicine, sociology, finance, economics, business, and political science to make well-informed decisions and create policy, and advanced practice nurses must be conversant in such areas of study as chemistry, biology, physics, psychology, and information technology. Doctoral programs in healthcare administration and nursing can invest midcareer professionals with the skills and knowledge they need to become leaders and creators of new knowledge in their field.

Doctoral programs in healthcare administration and nursing can invest midcareer professionals with the skills and knowledge they need to become leaders and creators of new knowledge in their field.

The Doctor of Philosophy in Nursing

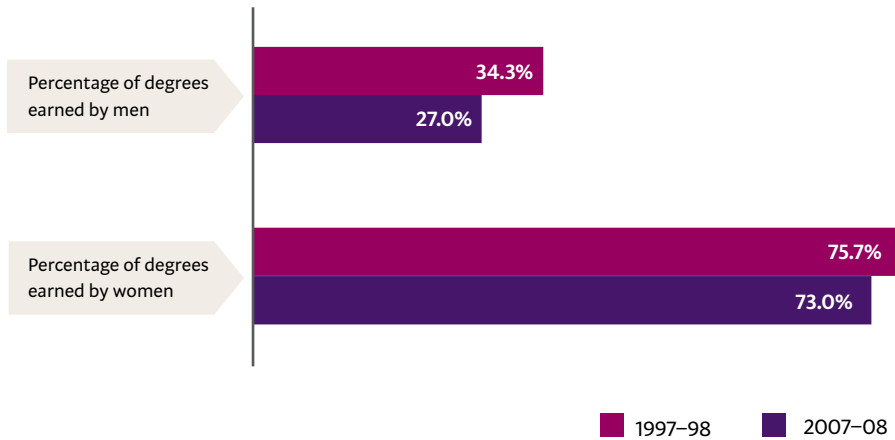
Two terminal degrees exist in the nursing field: the Doctor of Nursing Practice (DNP), and the Doctor of Philosophy. The DNP is a practice-oriented degree that prepares registered nurses for careers as advanced practice nurses (nurse practitioners, certified registered nurse anesthetists, certified nurse midwives, and clinical nurse specialists) holding leadership positions. The Ph.D., which University of Phoenix began offering in 2009, is research and leadership oriented. Nursing Ph.D.s usually work as faculty, researchers, and/or healthcare administrators.

Doctoral Degrees Conferred in the Health Sciences in the Academic Years 1997–98 and 2007–08



Source: U.S. Department of Education, National Center for Education Statistics. (2008). *Table A-42-1. Number of master's, doctoral, and first-professional degrees awarded by degree-granting institutions, percentage of total, number and percentage awarded to females, and percent change, by selected fields of study: Academic years 1997–98 and 2007–08.* Retrieved from <http://nces.ed.gov/programs/coe/2010/section5/table-gfs-1.asp>

Percentage of Doctoral Health Sciences Degrees Conferred to Men and Women in 1997–98 and 2007–08



Source: U.S. Department of Education, National Center for Education Statistics. (2008). *Table A-42-1. Number of master's, doctoral, and first-professional degrees awarded by degree-granting institutions, percentage of total, number and percentage awarded to females, and percent change, by selected fields of study: Academic years 1997–98 and 2007–08.* Retrieved from <http://nces.ed.gov/programs/coe/2010/section5/table-gfs-1.asp>

By educating the next generation of nurses, nursing Ph.D.s play a crucial role in stemming the nursing shortage.

By educating the next generation of nurses, nursing Ph.D.s play a crucial role in stemming the nursing shortage. Currently, there are not enough nursing faculty to meet the demand for nursing education. In 2008, 49,948 qualified applicants were turned away from U.S. nursing schools, in part due to the faculty shortage.¹ The faculty drought will likely worsen in the future as many nursing faculty near retirement age.

“Preparing nurse researchers and faculty is essential to the advancement of the nursing profession,” says Julia Smith, Ph.D., RN, CNS, Director of Academic Affairs and former Director of Nursing at the School of Advanced Studies. “Nurse researchers are responsible for conducting and interpreting research that will form the foundation for nursing practice in the future, while nursing faculty are charged with advancing the development of nursing education in the 21st century.”

Nursing Ph.D. students take courses in such topics as nursing theory and philosophy, nursing leadership, risk management, evidence-based practice, evaluation of healthcare programs, and global healthcare.

The Doctor of Health Administration

The Doctor of Health Administration (DHA) degree prepares students to become senior level executives in the healthcare field. Most DHA students are midlevel administrators who want to ready themselves for the next stage in their career by improving their leadership and critical thinking skills. DHA programs prepare them to accelerate the performance of healthcare delivery systems and craft insightful, responsive, and ethical policies. At University of Phoenix, DHA students take courses in such areas as transformational leadership and innovation, risk management, health resources management, healthcare policy and regulation, healthcare economics, marketing, global healthcare systems, and the evaluation of healthcare.

“While the Ph.D. in Nursing curriculum emphasizes nursing theory and research, the DHA program develops interdisciplinary competencies to equip graduates to lead complex organizations,” says Caroline Molina-Ray, Ph.D., a School of Advanced Studies faculty member who has taught healthcare administration for 10 years. “There is no qualitative difference in the value of these two degrees, and both integrate scholarship, practice, and leadership. The choice to pursue one degree or the other depends on the learner’s aspirations for contributing to the field as primarily a scholar or practitioner.” Both degrees, she adds, offer substantial solutions to the need for healthcare leaders in the coming years.

Doctoral Success Stories

Below are stories of doctoral candidates and graduates who are using their education to make a difference in the healthcare field.

MARY KEHOE

Doctor of Health Administration, 2008

Healing America's Veterans

A nurse practitioner who has worked for the Veterans Administration Shoals Community-Based Outpatient Clinic (CBOC) in Alabama for over 12 years, Mary Kehoe puts her doctoral degree to use by helping others quit smoking—and to contribute to the nursing field in many different ways. Kehoe, who says she dreamed of earning a doctorate for years before joining the online DHA program at University of Phoenix, says she knew from the beginning of the doctoral program that smoking cessation programs would be the topic of her dissertation. “Smoking cessation is my passion,” she says. “It’s an issue I have addressed daily in my practice for over 30 years.” As an intensive care unit and operating room nurse, Kehoe saw firsthand the tragic consequences of tobacco use. When she joined the VA in 1998, she received training through the American Lung Association and began teaching smoking cessation classes. For her dissertation, she investigated how much her fellow NPs knew about smoking cessation practices.² The results surprised her.

“I discovered that, although there’s a substantial body of literature about how to help people quit smoking, that information isn’t being disseminated to healthcare providers as effectively as it could be,” Kehoe says. She found that the 5As—a proven 5-step smoking cessation method—weren’t taught in many nursing schools, and that some NPs had not heard of them. “We need to do a better job of getting such effective methods in the hands of those delivering care,” Kehoe says. She presented her research-in-progress at the first annual VA Advanced Practice Nurses Conference and the final results to the Northwest Alabama Nurse Practitioners Association meeting, where attendees told her they planned to implement practice changes based on her findings.

Kehoe’s doctoral studies have only strengthened her commitment to serving her patients and the nursing community. Since earning her doctorate, she has obtained clinical faculty appointments at the University of North Alabama (UNA) and the University of

South Alabama, where she acts as a preceptor for graduate nursing students. Due to her connections with UNA administrators, UNA and the VA have formalized an agreement to use the Shoals CBOC as a clinical site for UNA nursing students.

“Mary Kehoe’s earning a doctoral degree has proven beneficial to the staff of the Shoals Clinic and the VA,” says nurse manager Debbie Williams, who has worked with Kehoe for 12 years. “She has put her education to good use by educating our staff, making presentations, volunteering, becoming involved in committees both within and outside of the VA, and fostering relationships with the community.” Williams points out that Kehoe received tuition reimbursement from the VA, even though most of the VA’s funding for education goes to bachelor’s and master’s degree students. “The fact that Mary received this funding is a testament to how well-respected she is within the VA,” Williams says.

Kehoe plans to retire with the VA, and hopes to teach full time upon her retirement from clinical work. “I’ve always wanted to give back to the nursing field,” she says.

KATHERINE CHOLET

Doctor of Philosophy in Nursing student

Translating Coursework Into Safer Patient Outcomes

Education can make a nurse a better and safer care provider, Katherine Cholet believes—and she has the experience to prove it. Cholet began her career with an associate’s degree but continued moving up the educational ladder, receiving a BSN and an MSN from University of Phoenix before entering its nursing Ph.D. program in 2009.

Cholet, who works as a clinical education manager for a healthcare facility in rural Colorado, chose University of Phoenix because it gave her the opportunity to attend classes online. Otherwise, she says, she would have had to leave her remote location to earn her bachelor’s and master’s degrees. The University’s online library, Cholet notes, granted her access to up-to-date research and scholarly journals, sources that have helped her successfully pitch organizational changes to her facility’s board of directors.

Cholet says her degrees have made her a safer nurse because they supplemented the technical skills she learned as an LPN with theoretical and clinical knowledge. She frequently implements key teachings from her University of Phoenix courses on the job. “Nursing as a profession is more than just coming in and finishing my shift,” Cholet says. “My BSN

“My education has enabled me to tell patients and families why we perform certain treatments and what theories lie behind them. It’s helped me earn patients’ trust.”

courses made me realize that I was able to reach beyond the bedside and ask for help, or offer patients resources that I think they need. My education has enabled me to tell patients and families why we perform certain treatments and what theories lie behind them. It’s helped me earn patients’ trust.” The MSN has also significantly enhanced her skills: Her master’s thesis helped her revamp her employer’s surgical department processes to effect a 10% cost savings per patient ratio strategy using American Society of PeriAnesthesia Nurses standards.

SELINA HUNE

Doctor of Health Administration, 2011

A Newfound Passion for Research

Canadian nurse practitioner Selina Hune has found her doctoral degree a valuable asset, and one that has bolstered her role as a nursing researcher. Intrigued by the accessibility of the online programs at University of Phoenix, Hune decided to earn a doctorate in health administration. The program was a natural fit for her, as she had considerable experience in both nursing and business, having worked as a branch manager for a national healthcare organization and as the executive director of a nursing home. She also teaches nursing as a clinical instructor and lecturer at the University of Toronto.

“The doctoral process was definitely longer and more difficult than I thought it would be,” Hune says. “Before I started, I thought it would be easy as it took place online, but it was not. The online classes were actually harder than taking courses in a traditional classroom because we were required to participate so frequently.”

For her dissertation, Hune studied leadership and followership among pediatric and long-term care staff and nurses. “I found that bedside nurses are proactive and eager to learn,” she says. “When I spoke to them about evidence-based practice they were really interested, even more so than the management.” Followership, she points out, is an important skill to have in a healthcare setting. “One of my colleagues suggested I avoid

using the term ‘follower’ because it has negative connotations,” she says. “But nurses need to be good followers in order to work effectively with doctors, management, and fellow nurses.”

Hune says the doctoral program developed her skills as a nurse and researcher. “I am now a better writer and I have a broader perspective and greater tolerance of others’ different work styles and value systems,” she says. “The skills I gained have made me a more confident person and help me give more support to other nurses.” She has also become more comfortable with research, which is important to her job in a research-oriented hospital. “I used to dislike research before taking part in the doctoral process,” she says, “but now I enjoy it so much that I’d like to teach a research course some day.” Hune frequently presents at conferences, and has published, both before and during her doctoral program, in such journals as *Stroke*, the *Journal of Child Neurology*, and the *Journal of Neuroscience Nursing*.

SONYA SCONIERS

Doctor of Health Administration, 2008

Getting Injured Workers Back on the Job

Physical therapist, occupational therapist, certified disability analyst, and university faculty member Sonya Sconiers plays many roles—and her doctorate in health administration has improved her performance in most of them. Sconiers worked as a therapist for many years before deciding to broaden her skill set by earning a doctorate. “At one point, I felt I had done all I could do as a clinician without getting an advanced degree,” she says. “I needed a doctorate in order to do teaching, research, and consulting.” The doctorate, as Sconiers discovered, commands respect. “It creates the expectation that you have a certain knowledge base,” she says. “It’s opened up many doors for me in my career and in my teaching—though I’m still getting used to being called ‘Professor.’”

Sconiers’s work in industrial rehabilitation provided her with a ready topic for her doctoral research. “Injured workers would sometimes come into our facility for physical therapy for three to four months, which is a long time to be out of work,” she says. “I became interested in the factors that facilitate injured workers’ return to their jobs.” She read the academic literature on the topic and observed that no one had studied how cultural competence—a healthcare provider’s skill in working with patients from different cultures—affected the efficacy of physical therapy for injured workers.

As part of her doctoral study, Sconiers interviewed a group of injured African American workers, 84% of whom told her that the race of their healthcare provider did not matter to them.³ “What they found important,” she says, “was that their provider had the knowledge and skill to treat them and that he or she truly cared about them.” Sconiers also found that her interviewees began to develop an identity as injured workers as well as members of an ethnic group. How injury affects a worker’s identity, she says, is a topic worthy of further study.

In the future, Sconiers says, she wants to continue teaching, perform more research, and publish more articles. An article based on her doctoral research was published in the *International Journal of Diversity in Organisations, Communities and Nations*, and she gave a presentation on rehabilitating wounded veterans at the Telemedicine and Advanced Technology Research Center’s annual conference. “I’d like to mentor others in their doctoral studies,” she says.



7

Scholars Abroad: Doctoral Graduates Changing the World

EXECUTIVE SUMMARY

Doctoral graduates must be prepared to enter a global workforce. Doctoral study can give professionals the higher-order skills they need to work diplomatically with people from other cultures and solve international problems.

Technology has made it possible for students in the military to earn doctorates while serving overseas under challenging conditions. Doctoral graduates bring formidable research and critical thinking skills to bear on the challenges faced by today's armed forces.

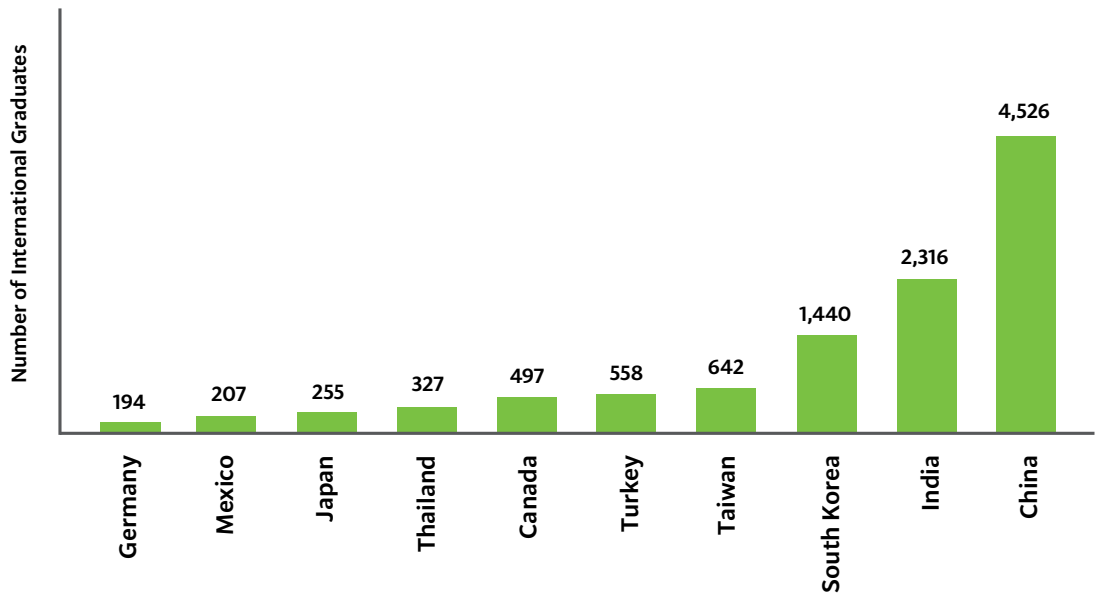
The world has become a smaller place. As Pietra Rivoli's book *The Travels of a T-Shirt in the Global Economy* illustrates, today an item as simple as a T-shirt may have a complex multinational lifecycle. The shirt she examines was made from cotton grown in Texas that was spun into yarn, woven into cloth, and assembled in China; shipped back to the United States to be sold and worn; and, after it was donated to charity, was shipped to East Africa and sold in the clothing market.¹

Doctoral students in all fields must be prepared to have an impact on a multicultural world.

Such global interchange, unthinkable 30 years ago, today has become commonplace. Improvements in trade, transportation, and technology have made it possible for goods, media, and information to crisscross national borders. Higher education, too, has become globalized: 2.5 million students attended colleges and universities outside their home countries in 2008, and that number is expected to grow to 7 million by 2020. Universities are opening branch campuses abroad and forming partnerships with schools in different countries, and faculty collaborate freely with international colleagues over the Internet.

Doctoral students are taking part in this new global paradigm by studying abroad; interacting with colleagues from various nations; and learning about the political, social, and cultural climates of different countries. Many find studying alongside international classmates to be a valuable experience. "My doctoral cohort was diverse in terms of nationality and profession," says Steven Johnson, assistant vice president at Howard University. "One of my classmates was a Shell Oil executive from the Netherlands and

Top 10 Countries Sending Students to the U.S. to Earn Doctorates, 2008



Source: National Science Foundation. (2009). *Doctorate Recipients from U.S. Universities: Summary Report 2007–2008. Survey of Earned Doctorates*. Retrieved from <http://www.nsf.gov/statistics/nsf10309/pdf/nsf10309.pdf>

another was a city government employee from China. Due to our diversity, we held different perspectives on important issues, and we had different strategies for solving problems. We learned to synthesize our different approaches when completing assignments together.”

Doctoral students in all fields must be prepared to have an impact on a multicultural world. Some will be executives in multinational corporations, some will work for nonprofit organizations abroad, and others will serve overseas as officers in the U.S. military. Graduates who work solely in the U.S. must meet the needs of an increasingly diverse population—one that absorbed over 6.8 million immigrants over the years 2000–2009.² Nurses in urban areas may treat patients who represent dozens of nationalities. Healthcare and education administrators will create policies that take the needs of clients from various ethnic groups into account, and will ensure that their workforce is culturally competent. Teachers and university faculty will lead students to become ethical global citizens.

Below are stories of University of Phoenix graduates whose doctoral journeys have taken place overseas, or who have used their education to improve the lives of people around the world.

JOHN R. BRYAN

Doctor of Business Administration, 2009

Helping Create a New Uganda

After a distinguished 25-year career in the business world, John R. Bryan was ready for a change. His volunteer work for an organization that helped African refugees in San Diego led him to travel to war-torn Uganda, a landlocked East African nation beset by violence, abductions, and the displacement of an estimated 1.7 million people.

Bryan’s interest in Uganda was forged when a friend—a political refugee from Uganda—asked him to help start a clinic that would serve the health needs of fellow refugees in the San Diego area. “My friend said, ‘I can’t pay you very much,’ but I wouldn’t have taken his money anyway,” Bryan recalls. “Now that clinic has been open for years.”

When Uganda appeared on the verge of peace in 2006, Bryan formulated a plan to turn his dissertation research into a working model for postconflict leadership in the former British colony.³ The proposal, developed with the encouragement of Bryan’s

dissertation mentor, Carolyn Salerno, quickly garnered international attention and drew the interest of several African leaders.

“As I knew many people in Uganda, and had a background in strategic planning and organization,” Bryan explains, “it seemed like a natural idea to look at Uganda’s leadership situation and help the nation transition out of conflict.” His recommendations addressed issues of cultural change, reconciliation with the opposition rebels, reintegrating the displaced population, reaching consensus on victim compensation, preparing for the withdrawal of human rights organizations, and instituting a fair and workable justice system. He says the work has given his life “purpose and focus” and the opportunity to help society in ways he never previously imagined. “It’s a little unsettling and very humbling,” he says.

SALLY BAYNTON

Doctor of Management, 2005

Helping Ugandans Realize Their Own Possibilities

John Bryan is not the only University of Phoenix graduate to have an influence on Uganda. Four years ago, Sally Baynton and her husband, Barr, traveled to the East African nation on a mission trip with their church. They were deeply affected by the poverty they witnessed.

“Some of the people we met literally had nothing but the clothes on their backs,” Baynton says. “They lived in 9-foot-by-9-foot mud huts. They don’t have bathrooms; they don’t have mirrors. Something as simple as taking their picture and turning the camera around to show it to them is really exciting because they’ve never seen what they look like before. Until you’ve had experience of that kind of poverty, you can’t really understand it.”

The Bayntons saw that many Ugandan adults, having grown up in displacement camps, lacked the skills they needed to support themselves. In response, the couple started Gulu Hope, a nonprofit organization that founds vocational schools in Uganda. The schools teach men and women to sew school uniforms and make fair-trade products such as jewelry, scarves, purses, and bamboo bicycle frames. Students also take Bible study classes and learn English. “It made me cry to see how their world was opening up,” Sally Baynton says. “My passion is introducing people to their own possibilities.”



Baynton says her doctorate gave her the skills and confidence she needed to open a school and raise funding to cover its expenses.⁴ “My education empowered me to be able to put a school on the ground, figure out how to organize it, hire people to manage it, and come up with ideas for products students can learn to make,” she says. She now teaches online and puts all the money she earns into the ministry. “We rely on donations, and we’re looking at grants so that we can build more schools,” she says. “Five thousand dollars can do so much in Uganda.”

“I see this as my future,” she says. “It’s something I will do for the rest of my life.”

MACHARIA WARUINGI

Doctor of Health Administration, 2008

Improving Kenyans’ Health Through Economic Development

Physician Macharia Waruingi is using his doctorate to give back to his native Kenya. As a child, Waruingi grew up poor. He earned a medical degree at the University of Nairobi School of Clinical Sciences, where he specialized in neurology, and moved to the United States to practice at Harvard-affiliated Massachusetts General Hospital and Brigham and Women’s Hospital in Boston. Yet he remained concerned about the state of healthcare in Kenya. Too many Kenyans, he believed, died early from malaria and other preventable diseases. He knew that Kenyan organizations such as Kenyatta National Hospital, where he had interned, and the Kenya Medical Research Institute performed a great deal of research on malaria and other diseases, but that their research was not being put into practice.

“I support University of Phoenix because it provides access to higher education to people who traditionally would not have the opportunity to attend college.”

Waruingi realized that Kenya’s health delivery problems were tied to its economic malaise, and that, in order to make a difference, he needed administrative as well as medical skills. He enrolled in the DHA program at University of Phoenix and completed a dissertation on improving healthcare delivery in the global arena.⁵

While pursuing his DHA degree, Waruingi founded the Kenya Development Network Consortium (KDNC), a nonprofit organization that brings members of the international development community together with business leaders, Kenya’s government, Kenyan citizens, and Kenyans living abroad to innovate healthcare and human development solutions for Kenya. KDNC now has over 1,000 individuals and organizations as members, and hosts an annual conference.

“I support University of Phoenix because it provides access to higher education to people who traditionally would not have the opportunity to attend college,” Waruingi says. “The systems the University uses to deliver education would be very beneficial to developing countries like my native Kenya.”

RENE CONTRERAS

Doctorate of Management in Organizational Leadership, 2008

A Scholar on the Front Lines

When people say writing a dissertation is difficult, they’re usually referring to rewriting chapters, facing the scrutiny of professors, and spending long hours reading scholarly journals. For University of Phoenix graduate and Air Force veteran Rene Contreras, the hardships of working on a dissertation included writing by flashlight in a 60-man tent, losing one laptop to an IED (improvised explosive device) explosion in Iraq, and losing another while serving in Colombia, South America.

A love for learning drove Contreras, a first-generation college student, to earn several degrees, including two associate’s degrees, a bachelor’s degree, and two master’s degrees.

He chose to pursue a doctorate in management from University of Phoenix while serving in Colombia.⁶ (“I could have been a full colonel, but I declined command so I could work on my doctorate,” he says.) The University’s online program allowed him to complete coursework even though he was deployed nine months out of each year and was often stationed thousands of miles from the United States.

Contreras communicated with his doctoral committee and learning team members primarily through email and instant messaging, as his phone time was limited. “I had to limit phone communications to a few minutes,” he recalls, “and talk fast to get the message out.” He wrote on a laptop using a small flashlight as a light source, which he held in his mouth as he typed. “I was in a 60-man tent with over 10 officers to each tent,” he says. “It had to be dark because everyone was working different shifts, so I’d put a blanket over my bunk to keep the light inside. I’d read my texts in my bunk with a flashlight.”

Twice, Contreras lost laptops with most of his work on them. The first time, his screen stopped working during a deployment to Colombia. The second time, his laptop was in a vehicle that was damaged by an IED. “The second time I lost my computer I lost everything,” Contreras says. “I thought I had backup, but I lost my hard drive and couldn’t save it. I basically had to start all over using copies of my class papers that I had back home.” Contreras’s doctoral cohorts were inspired when they heard about the hardships he had to endure. “Some of my cohort said there was no excuse for them not to finish when they heard regularly on email and on chat what I was going through,” he says. Two members of that cohort graduated with him—an experience he remembers fondly. “[At our graduation, my classmates] said something to the rest of the group about my military service, and when word got out, everyone was walking over to shake my hand. That was special,” he says.

Now Contreras, who has retired from the Air Force and works as a systems engineer for Raytheon, is writing a book about leadership with two other members of his cohort. In the future, he says, he may teach online part time. “I could teach from all over the world,” he says. “I have first-hand experience of that.”

JAMES CANNON

Doctor of Healthcare Administration, 2010

Caring for the Coast Guard

James Cannon brings business, healthcare, and military expertise together to make a difference in the U.S. Coast Guard. Cannon was raised by a single mother who gave birth to him during her sophomore year in college. She graduated on schedule and stressed the importance of education to Cannon while he was growing up, telling him, “You need to go to college. I don’t care what you study, but you need to go.” Cannon, heeding her advice, earned a bachelor’s degree in 1987 and a master’s in 1989. He entered the business world and became the CFO of a Fortune 500 company.

At the same time, he served in the United States Coast Guard Reserves. “There is nothing like being an executive, with all the perks that come with that position, and then having to go out on the weekends and dig your own latrine or sleep in a foxhole,” he says. “Being in the Reserves kept me well-grounded.”

In the early 1990s, Cannon reconsidered his career path. “I decided I wanted to do something in the medical field,” he said. “I was influenced in that decision by my mother, who was a social worker and always helped people.” He became a physician’s assistant for the Coast Guard in 1995.

After the terrorist attacks of September 11, 2001, Cannon became an active-duty member of the Coast Guard. He has now earned the rank of commander and is in charge of planning international health service support missions. “On average, the Coast Guard saves 55 lives every day,” he says. “I’m proud to be able to take care of wonderful men and women who are doing great things for the nation.”

Cannon sought a doctorate in health administration to learn more about health policy. His dissertation, which he describes as “348 pages of blood, sweat, and tears,” is about perceptions of physician assistants in the Coast Guard.⁷ “I am hopeful that my work will contribute to defining, creating, or supporting a model that can give U.S. citizens greater access to healthcare,” he says, adding, “How can you not get a completely warm feeling inside, knowing that you’re making a difference?”

CONCLUSION: SHAPING THE DOCTORAL STUDENTS OF TOMORROW

The United States is rapidly shifting towards a knowledge economy—one in which ideas and information, rather than material goods, are exchanged and consumed. To succeed in this new economy, individuals must be able to create, critique, analyze, disseminate, and implement knowledge. In short, they need education. Today, when baccalaureate degrees are required for most well-paying jobs and the master's degree has been called “the new bachelor's,” doctoral graduates are best poised to navigate a workforce so dependent on knowledge.

Graduate students devote years of their lives to managing information. They acquire the base of knowledge deemed essential to their field, learn its methodologies and means of collecting and evaluating evidence—and then, with the help of an experienced practitioner, make an original contribution to their field through research of their own. In doing so, they garner the skills organizations need to thrive in the knowledge economy, such as creativity; calculated risk-taking; innovation that heeds the lessons of the past; and the ability to sift through large amounts of data, extract what is important, and use that evidence to solve problems. These skills are so valuable that a new breed of graduate students has arisen to acquire them: professionals already committed to a career path who want to use research, theory, and evidence to improve their employers and society.

Educators can make the doctoral journey more pleasant and rewarding without sacrificing quality or rigor.

Earning a doctorate is an elite endeavor, and one that requires years of hard work and sacrifice. Only 1% of Americans hold a doctoral degree, and half of all those who attempt to earn one fail. Although doctoral programs should be rigorous, in some cases they are more personally and psychologically demanding than they ought to be.

Educators can make the doctoral journey more pleasant and rewarding without sacrificing quality. They can also do more to ensure that graduates find careers that are well suited to their talents and skills, and that the nation and the economy receive the maximum benefit of graduate training. The following principles highlight key ways graduate educators can better serve students and society:

Relevance. Teaching is one of the most vital ways doctoral graduates contribute, and it will always be an important career path for those with advanced degrees. However, graduate educators need to prepare students for careers in business, government, and nonprofits as well by making them aware of nonacademic careers; developing their transferable skills; and partnering with corporations and outside organizations.

Support. Graduate study should not be such a lonely endeavor, nor should graduate students be expected to handle all problems on their own. Doctoral students should receive the same levels of support as do undergraduates: admissions, financial, and academic advising; career placement assistance; and tutoring and academic assistance. In addition, graduate students need social support: compassionate mentoring and opportunities to form relationships with classmates.

Versatility. Many of today's pressing problems demand interdisciplinary solutions. Turning around an underperforming school district, for example, might require knowledge and skills from such disciplines as education (Are teachers using effective methods?), political science (What are the political affiliations of school board members?), management (Are administrators and staff communicating effectively?), psychology (How can staff and students be better motivated?), and sociology (How does students' socioeconomic status affect their learning?). Likewise, today's jobs require employees to draw upon a wide palette of skills. Doctoral programs can foster such versatility by encouraging creativity and risk-taking, adding interdisciplinary components, requiring collaboration, and promoting leadership.

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People with doctorates make invaluable contributions to society: They work as professors and researchers, but also as entrepreneurs, executives, advanced practice nurses, educational policymakers, and founders of nonprofit organizations. Doctorally prepared individuals hold the skills necessary for leadership in a knowledge economy, including critical thinking, performing research, and communicating clearly and persuasively. They are able to examine problems from multiple angles and provide and implement evidence-based solutions.

Yet, though doctorally prepared workers are critical to America's global competitiveness and innovative capacity, many graduate programs are not preparing them adequately for the demands of the workplace. Around half of all doctoral students leave school without graduating, and those that remain take an average of 8.7 years to earn their degrees. Some schools also focus narrowly on training students for academic careers, even though the majority find jobs in the business, government, or nonprofit sectors.

Innovative doctoral programs—the ones at University of Phoenix among them—are striving to make graduate education more collaborative, interdisciplinary, and responsive to the needs of the workplace and society. This book details best practices employed by the School of Advanced Studies at University of Phoenix, and illustrates the many ways nontraditional doctoral graduates are making a difference in the fields of business, healthcare, and education.

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