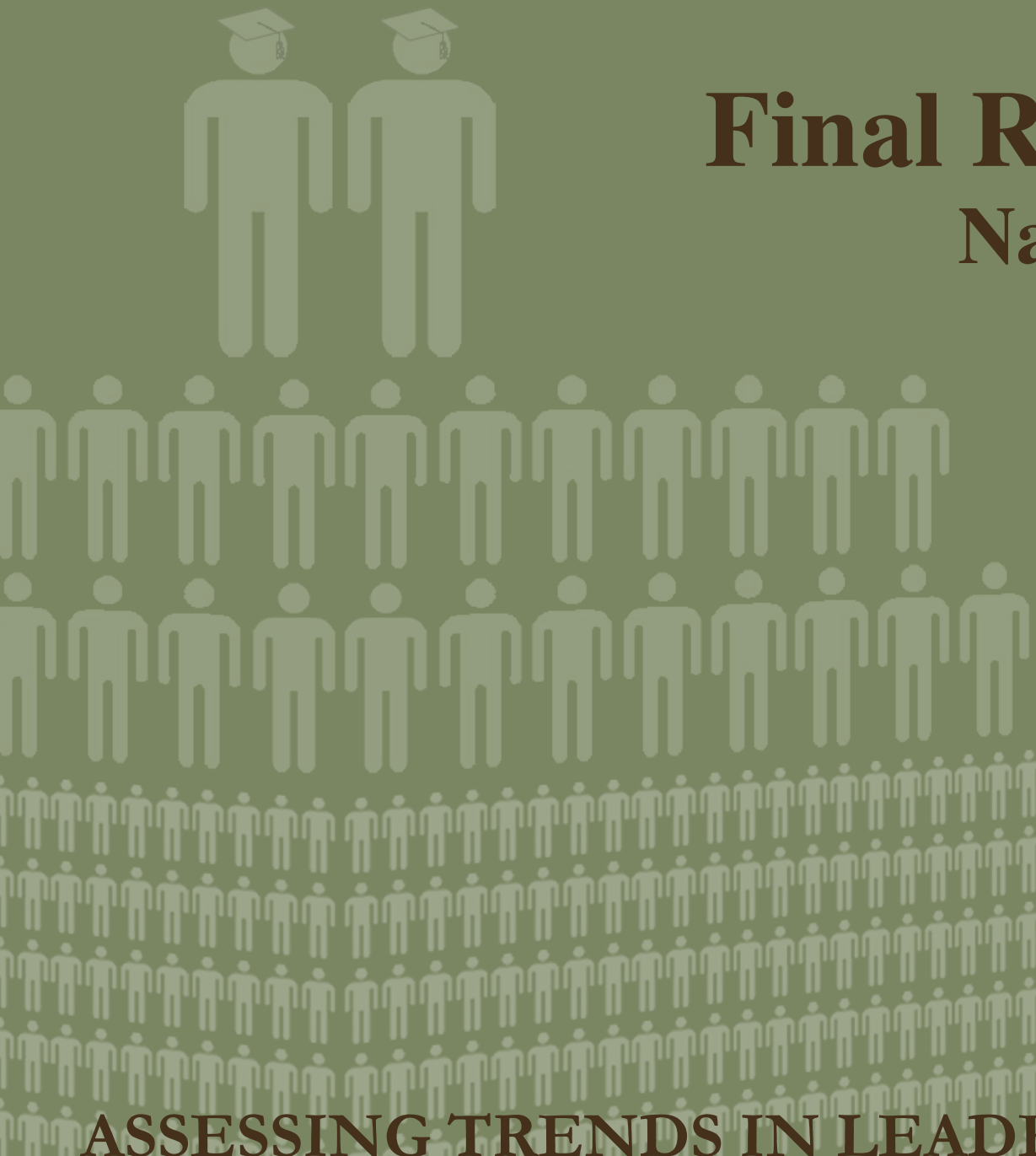

2011 Final Report Narrative

ASSESSING TRENDS IN LEADERSHIP:

SPECIAL EDUCATION'S CAPACITY TO PRODUCE A HIGHLY QUALIFIED WORKFORCE

Deborah Deutsch Smith, Claremont Graduate University
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Disclaimer

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Special Education Faculty Needs Assessment (SEFNA)

September 2011

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Office of Special Education Programs
SEFNA Project #: 325U070001

Preface

For over 25 years, independent researchers have warned of an impending shortage of the special education (SE) faculty who staff the nation's institutions of higher education (IHEs). *The 2001 Faculty Shortage Study* (Smith, Pion, Tyler, Sindelar, & Rosenberg, 2001), which documented the imbalance between the supply of and demand for SE leadership (doctoral) personnel, raised awareness of this issue and was the first project funded to study the multidimensional nature of the shortage. After 10 years, the time was right to build upon the decade-old findings of *The Faculty Shortage Study*. The information gathered through the current Special Education Faculty Needs Assessment (SEFNA) project adds to our understanding regarding the connections between the supply of doctoral graduates who select SE teacher education programs for their careers and the available supply of highly qualified teachers who provide services to students with disabilities and their families. The U.S. Department of Education's Office of Special Education Programs (OSEP) funded the SEFNA project.

This publication represents the final report of a four-year effort to determine whether the nation's SE enterprise had sufficient capacity and infrastructure to produce a highly qualified workforce to meet the educational needs of students with disabilities and their families. Central to this study were questions such as does the faculty shortage documented in *The Faculty Shortage Study* remain, has the profile of doctoral programs changed, what are the characteristics of programs producing SE teachers, what demographic shifts have occurred in students currently in the doctoral pipeline and recent doctoral graduates, and how does the OSEP leadership preparation program contribute to the supply of doctoral students in SE? We were surprised by many of our findings. We believe that these results will inform the nation's policymakers and SE community of the actions that need to be taken to ensure sufficient infrastructure and national capacity to abate an impending faculty shortage of overwhelming magnitude. This shortage will impair the ability of schools to provide an appropriate education to students with disabilities because a shortage of teacher educators will result in a further shortage of well-prepared teachers.

About the Authors

Deborah (Deb) Deutsch Smith, Claremont Graduate University, was the principal investigator of the SEFNA project. Though we all contributed to all SEFNA tasks, Deb Smith oversaw Tasks 1 (SE doctoral programs), 5 (OSEP funded doctoral students' graduation rates), and 6 (OSEP projects' funding patterns). Bianca Elizabeth Montrosse served as the research analyst for the project and coordinated Task 3 (SE doctoral graduates). Susan (Sue) Mortorff Robb took the lead for Task 4 (SE teacher education programs), and Naomi Chowdhuri Tyler directed Task 2 (SE doctoral students). Christopher (Chris) Young served as the survey coordinator and Web master, and led the effort for Task 7 (SE faculty searches).

Acknowledgements

The SEFNA project required concerted and collaborative work by many scholars, some of whom had previously worked answering specific questions related to the SE faculty shortage. It also required the participation of hundreds of individuals who work in a variety of capacities in many different settings. The resulting report, though leaving numerous questions unanswered, represents

the most comprehensive and up-to-date examination of the supply of and demand for SE doctoral personnel.

In particular, we would like to thank the staff at OSEP who assisted with the initial conceptualization of the project's work, supported the endeavor, and guided the work throughout. We wish to extend special acknowledgement to Robert (Bob) Gilmore and Lou Danielson, who not only persistently championed the study and its funding but who also participated as full members of the research team from the project's inception to its conclusion. We also wish to extend our gratitude to these members of the OSEP team: Melody Musgrove, Larry Wexler, and Patricia Gonzalez. Larry Wexler and Bob Gilmore also were instrumental in helping us achieve our response rates for Tasks 4, 5, and 6.

We want to thank the Department Chairpersons, Doctoral Program Coordinators, Teacher Preparation Program Coordinators, and the support staff who work at the nation's SE doctoral and teacher preparation programs. Over 300 program administrators assisted with the SEFNA effort by providing us with information about their programs, funded leadership preparation projects, current doctoral students, and graduates. Almost 1,900 then-current doctoral students and recent SE doctoral graduates completed our surveys. These individuals provided us with valuable information on the current state of affairs among those new to the profession. Collectively, these individuals contributed to the outstanding response rates (ranging from 71% to 100%) that we obtained in this study. We extend our thanks to Phoebe Gillespie and the staff of the Personnel Improvement Center at the National Association of State Directors of Special Education (NASDSE) for assistance with Task 4 and the initial identification of the SE teacher preparation programs. In addition we thank the staff at the National Opinion Research Center (NORC) for conducting specialized analyses used to ground some of the findings included in this report. Finally, we wish to thank Jane West and the staff at the American Association of Colleges for Teacher Education (AACTE) for their assistance with survey follow-ups and reminders for Task 4.

The Study Team

We wish to thank and acknowledge the scholars on the SEFNA project Study Team who played such integral roles throughout the course of our work. They brought to the effort vast experience from their own research and contributed unselfishly in diverse and important ways. They helped conceptualize the study, validate the questionnaires, analyze results, unravel the implications, and advance our efforts at dissemination. Their contributions were consistent and invaluable.

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Jane West, AACTE

Staff, Students, and Consultants

We extend our sincere thanks and appreciation to the staff, students, and consultants who assisted us over the course of this project. Roxanne Watson and Michael Nee served as the SEFNA program coordinators. Leslie Fierro, Anthony Truong, Melissa Hartley, and Alyson Minkus assisted with various aspects of data collection. Jackie Lewis, Brandi Janosky, Jessica Chairez, and Monique Villanueva offered clerical and general support. Jason Miller assisted with the final editing and production of this document.

We extend our gratitude to everyone involved in our work,

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Note: SEFNA Surveys can be found online in their entirety at http://www.cgu.edu/sefnasurveys

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List of Acronyms and Abbreviations

AACTE	American Association of Colleges for Teacher Education
CEC	Council for Exceptional Children
CGU	Claremont Graduate University
DGU	Doctoral Granting University
FTE	Full-Time Equivalent
FY	Fiscal Year
GE	General Education
GRF	Graduate Research Fellowship
HECSE	Higher Education Consortium for Exceptional Children
HQT	Highly Qualified Teacher
IDEA '04	Individuals with Disabilities Education Improvement Act of 2004
IES	Institute of Educational Science
IHEs	Institutions of Higher Education
NASA	National Aeronautics and Space Administration
NASDSE	National Association of State Directors of Special Education
NCLB	No Child Left Behind Act
NEH	National Endowment for Humanities
NICHD	National Institute of Child Health and Human Development
NIH	National Institute of Health
NIMH	National Institute of Mental Health
NORC	National Opinion Research Center
NSF	National Science Foundation
OSEP	Office of Special Education Programs
PBIS	Positive Behavioral Interventions and Supports
RA	Research Assistant
RFP	Request for Proposals
RTI	Response to Intervention
SE	Special Education
SEFNA	Special Education Faculty Needs Assessment
TA	Teaching Assistant
TE	Teacher Education
TED	Teacher Education Division
UDL	Universal Design for Learning
USED	United States Education Department

Executive Summary

Study overview

Faculty at institutions of higher education (IHEs) fulfill two critical roles for the field of special education (SE): They are responsible for 1) conducting research that produces validated instructional and behavioral practices for use in classrooms, and 2) preparing highly effective general education and SE professionals (e.g., teachers, principals, paraprofessionals). These professionals, in turn, use validated practices to improve the outcomes of students with disabilities.

The direct relationship between the shortage of SE faculty and the shortage of SE teachers is well established. Unfortunately, SE has faced a chronic and persistent shortage of IHE faculty for decades—too few doctoral graduates are produced. The result is an insufficient supply of new faculty, which in turn negatively impacts the preparation of all educators. A concern about the long-term effects of the faculty shortage led to the funding of the *Special Education Faculty Needs Assessment* (SEFNA) project. This project brought together scholars from across the nation to evaluate the supply of and demand for SE faculty, including implications for SE teachers entering the workforce. The project set out to perform seven tasks, namely

1. Assess the status and capacity of SE doctoral programs;
2. Assess the demographics, career goals, and characteristics of current SE doctoral students;
3. Determine the career paths, demographics, and other characteristics of two cohorts of SE doctoral graduates: five years of graduates who participated in *The 2001 Faculty Shortage Study* (Smith, Pion, Tyler, Sindelar, & Rosenberg, 2001) and five years of recent graduates;
4. Determine some of the basic characteristics of university-based SE teacher education programs;
5. Determine the graduation rates of doctoral students funded by the Office of Special Education Programs (OSEP) through a follow-up study;
6. Conduct a comparison of funding levels for doctoral students across federal agencies; and
7. Triangulate data by examining job searches advertised in *The Chronicle of Higher Education* from June to October 2010.

Table 1 highlights the methods used by the SEFNA project. A more detailed explanation of study methodology is included in Appendix A.

Overarching findings

A number of overarching findings have emerged from the SEFNA study:

- Federal and stakeholder actions have contributed to considerable progress addressing the SE faculty shortage.
- In today's challenging economic times, we might expect a difficult job market to balance prior supply/demand disproportionality. This is not the case in SE. The demand for SE faculty continues to outstrip the supply.
- Job prospects and job security for SE doctorates remain high and stable.

Table 1
Overview of Study Methodology

Task	Sample	Respondents	Response Rate
1	97 SE doctoral training programs	Program coordinators	97% (n=94) of doctoral programs
2	1,779 SE doctoral students	Current SE doctoral students	71% (n=1,263) of SE doctoral students (1999–2009)
3	870 SE doctoral program graduates from 66 programs	SE doctoral program graduates	72% (n=626) of SE doctoral program graduates (1997–2007)
4	76 SE teacher preparation programs from 12 states in six U.S. regions	Program coordinators	78% (n=59) of surveyed programs from 12 states in the six technical assistance and dissemination regions
5	30 OSEP leadership preparation projects (FY 2000 & 2001)	Project directors	100% (n=30) of OSEP leadership preparation projects
6	85 active OSEP leadership projects in Spring 2009, and extant IES, NSF, & NIH data	Project directors	95% (n=81) of active OSEP leadership projects in spring 2009
7	43 advertisements for SE positions posted in *The Chronicle of Higher Education* from June 2010 through October 2010	Position coordinators identified in the advertisements	79% (n=34) of position coordinators

- Key markers or predictors of doctoral students who become IHE faculty include intent to pursue a faculty career, financial support (e.g., TA, RA, traineeship or fellowship), age when enrolling in a doctoral program, reduced time to complete the doctoral degree, and willingness to relocate after graduation for employment.
- All universities with an SE doctoral program also have an SE teacher education program. Compared to those only offering an SE teacher education program, these universities represent just 9% of the population. These 97 SE doctoral programs supply new faculty to the nation's approximately 1,100 SE teacher preparation programs.
- During the next five years, doctoral granting IHEs—those producing the teacher educators who will produce the next generation of teachers—will lose 1/2 to 2/3 of their faculty to

retirement alone. On average, each of these programs has eight full-time equivalent (FTE) faculty, indicating that between 388 and 582 doctoral faculty will be lost in the coming years.

- Teacher education programs are expanding (e.g., early childhood, blended general/special education). The roles of SE faculty have increased to include the preparation of general education teachers in areas such as multi-tiered interventions (e.g., response to intervention [RTI], positive behavioral interventions and supports [PBIS]), differentiated instruction, and universal design for learning (UDL).
- Despite progress, the supply of new SE doctorates does not yet meet the demand for IHE faculty. Figure 1 (described in more detail on page 30) illustrates the number of graduates who reported pursuing degrees in academe (National Opinion Research Center [NORC]) between 1999 and 2007, the number of entry level faculty positions advertised in The Chronicle of Higher Education between 2006 and 2010, the expected number of faculty retirements at IHEs between 2011 and 2017, and projections for new doctoral graduates who will accept faculty positions through 2017. The combined data and projections indicate that the supply/demand imbalance will continue in the future.

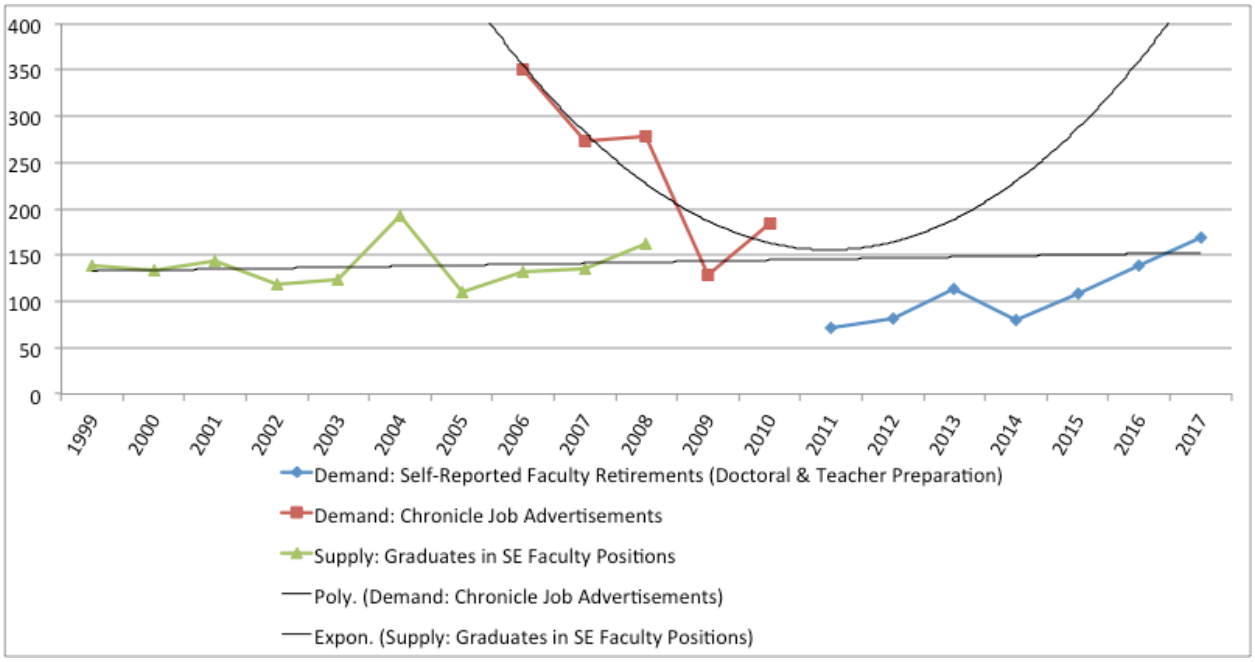

Figure 1. **Supply and demand: History and projections.**

Supply findings

The last 10 years have seen a substantial increase in the number of new SE doctorates, particularly those with a career path to higher education. We believe that the role of the federal government and other stakeholders in providing solutions to the SE faculty shortage identified in 2001 contributed greatly to the SEFNA project findings outlined below.

Finding: Increased number and capacity of SE doctoral programs

- There were 16% more doctoral programs in 2009 (n=97) than in 1999 (n=82).
- There were 7% more enrollments in 2009 (n=1,779) than in 1999 (n=1,659).
- There were 28% more graduates in 2007 (n=296) than in 2002 (n=213).
- There was a 20% increase in program capacity in 2009 (n=56) over 1999 (n=45).

Finding: Increased number of doctoral graduates

- The number of graduates over a five-year period (2002–2007) increased by 28%.
- Among new enrollees in doctoral programs, there was a 12% increase in those seeking a career as SE faculty in 2009 (n=775) over 1999 (n=558).
- More graduates accepted faculty positions (63%) than had been the case in previous studies (less than 50%).
- Recent graduates are more diverse than in previous years, but the need to address the issue continues. The number of graduates with disabilities has improved and now represents almost 7% of all SE doctoral graduates. This is significant considering that only 1.5% of all doctoral recipients and 2.6% of doctoral recipients in education report having a disability (Table 25 of NSF/NIH/USED/NEH/NASA, 2009 Survey of Earned Doctorates).
- Some 20% of all SE graduates reported being members of a historically underrepresented group (compared to 17% of current IHE SE faculty and 14% of SE teacher preparation faculty). Of the 20% of SE graduates from a racial minority group, 9% self-identify as Black or African American, 7% as Asian, 3% as Bi- or Multi-racial, and less than 1% as Native Hawaiian or Pacific Islander or as American Indian or Alaska Native. Further, some 26% of SE doctoral students in the pipeline report being a member of a historically underrepresented group, suggesting that the percentage of diverse faculty might increase as these students matriculate from their doctoral programs.
- In terms of diversity related to ethnic identity, 6% of recent graduates self-identify as Spanish, Hispanic, or Latino.

Finding: Key predictors of an academic career path

- Career intentions
    - Entering a doctoral program with plans to become faculty increases the odds of becoming a faculty member nine times.
- Age
    - Every additional year of age among those beginning a doctoral program decreases the odds of that person becoming a faculty member by 2.6 times.
- Time to graduation
    - A one-year increase in time between enrollment and completion decreases the odds of becoming a faculty member by 2.3 times.
- Willingness to relocate for employment
    - Such a willingness increases the odds of becoming a faculty member nine times.

- Having a teaching assistantship, a research assistantship, a traineeship, or a fellowship
    - Such support increases the odds of becoming a faculty member almost two times.

Finding: Key differences in SE graduates who enter the academic career path and those who do not

- Graduates entering academic careers:
    - Are younger
    - Are more likely to be female
    - Are more willing to relocate
    - Have a shorter time to graduation
    - Have more funding
    - Have faculty aspirations
    - Are less diverse

Finding: Action by OSEP 10 years ago positively affected supply

- The percentage of graduates in faculty roles has increased.
    - Between 1989–1999, less than 50% of graduates became faculty members.
    - As a result, OSEP increased appropriations to the Leadership competition and added guidelines specifying preference to fund students who aspired to faculty careers in academe.
    - In 2009, 63% of graduates accepted faculty positions.
- Graduates are younger.
    - The average age at graduation of those receiving a doctorate between 2004 and 2008 is, on average, five years younger than those who earned a doctorate between 1998 and 2003.
- Five percent more graduates had funding in 2009 than 1999.
- Of those who planned to pursue non-academic positions upon entering graduate school, 31% changed their career aspirations and entered the academic workforce.

Finding: OSEP-funded students' graduation rates

- OSEP-funded students have higher completion rates than do students in other federally sponsored programs (i.e., NSF, NIMH).
    - OSEP-funded students' completion rates exceed 70%, with projections of 90% because many were completing dissertations at the time of data collection.
    - Some agencies' (i.e., NSF, NIMH) completion rates fall below 50%.

Finding: The federal role in the preparation of SE doctorates

- OSEP is the primary source of support in the preparation of SE doctorates, researchers and teacher educators whose focus is on students with disabilities.
- OSEP-funded students receive 2/3 less assistance than do students supported by other agencies.
- Considerable inconsistencies in funding levels exist across OSEP projects, even at the same IHEs.

Finding: Capacity for additional funding

- The majority of active doctoral programs (55%) have OSEP-funded doctoral preparation projects.
- About one-quarter of the SE programs (24%) ranked in the top 25 by *U.S. News and World Reports* do *not* have leadership-preparation projects.

Finding: Excellent job security

- The number of graduates who assume faculty positions has increased by almost 11% over the last 10 years.
- Consistently across a 20-year span, 90% of IHE faculty members work on a full-time basis. Almost all (90%) of IHE faculty members work on a full-time basis, consistently across a 20-year span.
- Only 10% of IHE faculty are working part-time. Many are retired but continue to work to ensure program continuity because replacements for them have not yet been found.

Demand findings

Finding: Expanding roles for SE faculty

- More general education teacher preparation programs are addressing how teachers support the needs of all struggling learners, including students with disabilities, and SE faculty are increasingly assisting with this instruction.
- SE faculty predominately handle training for general educators on practices (e.g., progress monitoring) and frameworks (e.g., multi-tiered interventions such as RTI and PBIS) that originated in SE.

Finding: Expanding programs

- A strong trend exists for more blended special and general education preparation programs.
- More early intervention and early childhood programs are being developed.

Finding: Robust SE job searches

- Because of continued demand, SE personnel-preparation programs are not closing.
- About 75% of faculty searches are successfully concluded at the end of one year, with more recent estimates indicating this percentage rose to 79% during the 2010-11 academic year.
- Unlike in *The 2001 Faculty Shortage Study* (Smith et al., 2001), none of the unsuccessful searches lead to the elimination of the faculty line. Most (67%) anticipate continuing the search for unsuccessfully filled positions during the 2011-12 academic year.

Finding: Impact of the recession

- Job searches for SE faculty positions dropped from 224 in 2007 to 110 in 2009 (down 54%).
- SE job searches rebounded to 170 in 2010 and appear to be increasing (up 55%).
- Despite the increased number of new doctoral graduates assuming faculty positions, a substantial shortage exists today and will worsen in the future as retirements compound demand.
- The temporary reduction in job opportunities did not result in a balance between supply and demand.

Finding: A unique subset: IHEs with SE doctoral programs

- IHEs with SE doctoral programs are recovering faster from the economic downturn, have larger faculties, offer more concentrations, and have more advanced infrastructure than do IHEs with only teacher education programs.
- The doctoral granting programs that participated in the study expect to lose a substantial proportion of faculty to retirement in the next five years. As mentioned above, each of these programs has an average of eight FTE faculty. They estimate that they will lose between 1/2 to 2/3 of their faculty to retirement alone. Based upon these data, we estimate that between 388 and 582 doctoral faculty will retire in the next five years.
- Although only 9% of IHEs with SE programs offer a doctoral degree (n=97), 33% (n=16) of searches in 2010–2011 came from these schools.

Finding: Future demand issues

- Retirements across all SE programs (doctoral and teacher education combined) are expected to increase by 21% per year between 2011 and 2017.

- Based upon our best estimates, to replenish the supply of faculty leaving both SE doctoral programs and teacher education programs over the next five years, we will need to produce a total of 856 graduates per year, or nine graduates per doctoral program per year who pursue an academic career. Improved supply cannot meet this predicted demand. On average, doctoral programs report producing three graduates per year, only slightly more than half of who pursue an academic career. To meet predicted demand, each doctoral program would need to produce an additional 7.5 graduates per year who pursue academic positions.

Recommendations for improving the supply/demand imbalance

Although the supply of new SE doctorates has improved, the demand for new SE faculty is increasing, exacerbating the long-term shortage of SE faculty. As shown in Figure 2, the predicted shortage of faculty will result in a substantial percentage of students with disabilities being underserved. Even without predicted retirements, a gap between the supply of new graduates and the demand for SE faculty will continue for years to come unless action is taken.

- The federal role in the preparation of SE leadership personnel is critical and needs to continue. The federal support (e.g., tuition, stipends, number of projects funded) of doctoral students through OSEP must increase—allowing students to study full-time—in order to reduce time-to-graduation, a key marker of those who become university faculty members.
- Because funding is critical, a careful review of the OSEP leadership-preparation initiative is warranted, with close attention paid to its structure and the variability of student-funding packages.
- Concurrently, IHEs should consider committing to realistic minimum levels for student-funding packages.
- Given the expansion in the field, both in terms of programs and faculty roles, there must also be federal and IHE support for the development of blended teacher preparation programs. Care should be taken, however, not to exacerbate the pending supply/demand imbalance.
- Additional efforts must be made to recruit culturally and linguistically diverse doctoral students interested in becoming IHE faculty members.
- IHEs must strategize how best to address the impending SE faculty shortage.

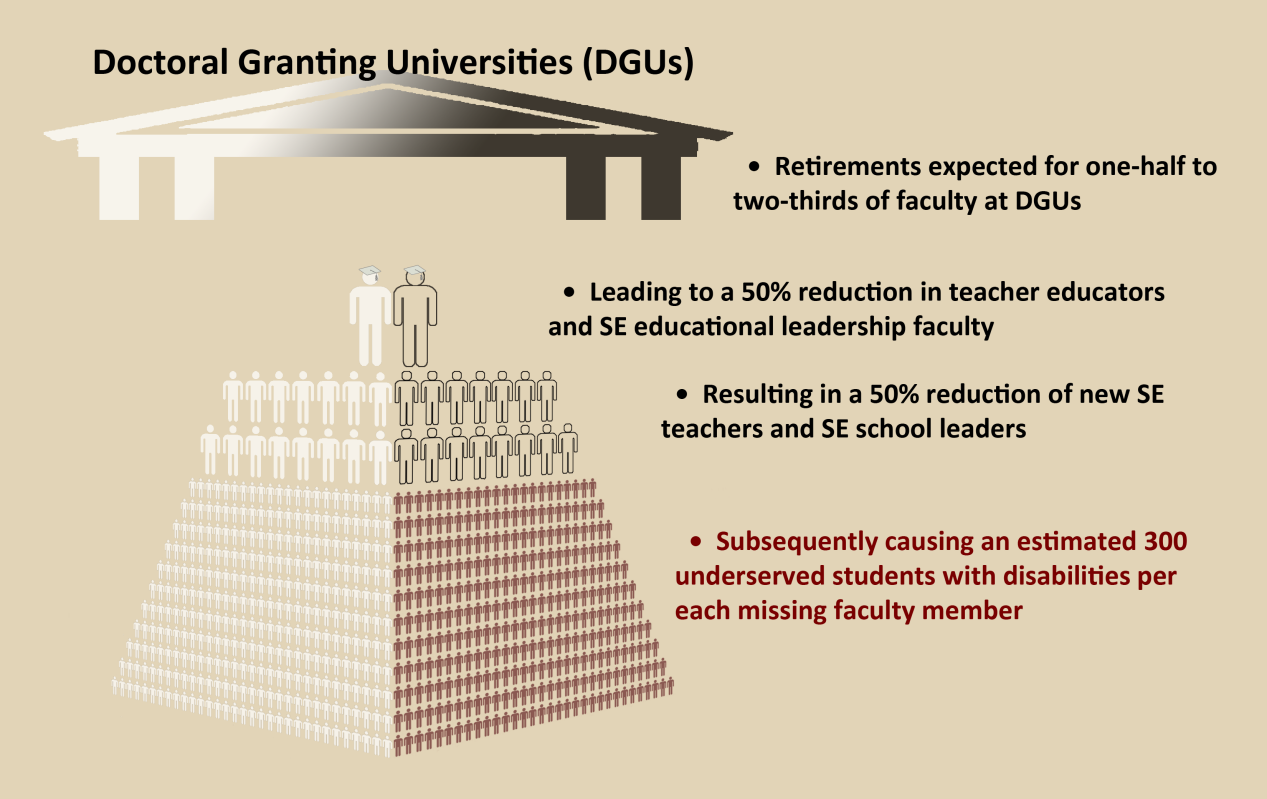

Figure 2. The impact of a shortage of SE faculty at doctoral granting universities on the number of SE teacher educators to prepare a sufficient supply of SE teachers necessary to provide appropriate SE services to students with disabilities.

Chapter I. Context of the Current Study

Key Findings From *The 2001 Faculty Shortage Study*

In 1999, special education (SE) university faculty members joined policymakers, researchers, and other stakeholders to study issues related to the supply of and demand for SE faculty members at institutions of higher education (IHEs). Concerned about the field's capacity to prepare the next generation of SE service providers, the team wanted to ascertain whether a shortage of SE faculty did in fact exist. If it *did* identify a faculty shortage, it was important to determine a) how that shortage contributed to widely acknowledged and documented SE teacher shortage, and b) what actions could be taken to solve a continuing shortage.

In 2001, *The Faculty Shortage Study* (Smith, Pion, Tyler, Sindelar, & Rosenberg, 2001) made the following key findings:

- A shortage of SE faculty existed:
    - In the 20 years between 1981 and 2001, the number of SE doctorates produced annually decreased by 30%.
    - About half of those who receive SE doctoral degrees chose to work in higher education; the remainder pursued leadership positions in the federal government, the states, or local school districts.
    - Over 1/3 of all faculty positions nationwide remained unfilled.
    - Had *every* new SE doctoral graduate at that time assumed an open faculty position, an equilibrium between supply (i.e., new graduates) and demand (i.e., advertised positions) would have been achieved.
- Some characteristics of new doctoral graduates inhibited their selection of SE faculty positions as career choices:
    - An unwillingness to relocate or travel long distances that factored into the selection of a doctoral program tended also to affect subsequent career choices.
    - An unwillingness to relocate or travel long distances at the time of graduation tended also to affect individual's accepting open faculty positions.
    - The older and more experienced the graduate, the more likely it was that his or her decision would be affected by salary, family demands, of the location of the new job (i.e., mobility or willingness to move).
- A shortage of SE faculty was directly associated with a shortage of SE teachers and service providers:
    - Conservatively, for every unfilled IHE faculty position, an average of 25 fewer SE teachers are produced each year.
    - Those 25 vacant teaching positions subsequently cause 400 students with disabilities (at a 16:1 student/teacher ratio) to be underserved, as their service providers are less than fully qualified teachers.

The Faculty Shortage Study influenced federal policy considerably. It was referenced in many House and Senate Committee Reports (full citations can be viewed on the SEFNA Web site at http://www.cgu.edu/sefna) (West, 2011). Through these various documents, we find that the connection between the shortage of IHE SE faculty members and the shortage of direct service personnel (e.g., SE teachers) now appears to be well established and acknowledged. Before *The Faculty Shortage Study*, the links between the supply of new doctoral graduates, faculty working in

teacher education programs, and new teachers available to work with students with disabilities were not apparent.

We do not have specific documentation of how frequently *The Faculty Shortage Study* has been cited. However, it is estimated that since 2001, 99% of applications submitted to the annual Office of Special Education Programs (OSEP) Leadership Preparation Competition have made reference to the work (Gilmore, R., personal communication, May 17, 2007). Consensus also exists that *The Faculty Shortage Study* resulted in increased appropriations and allocations for the funding of more leadership grants to support doctoral training projects (Gilmore, R., personal communication, May 17, 2007). *The Faculty Shortage Study* formed the content of a special issue of the journal *Teacher Education and Special Education* (Hardman & West, 2003; Kleinhammer-Trammill, 2001; Pion, Smith, & Tyler, 2003; Sindelar & Rosenberg, 2003; Smith, Pion, Tyler, & Gilmore, 2003; Tyler, Smith, & Pion, 2003), one of whose articles was recognized in 2003 as the Teacher Education Division (TED) of the Council for Exceptional Children (CEC) Research Article of the Year. The information was also the focus of two book chapters (Smith, Pion, & Tyler, 2004; Brownell, Rosenberg, Sindelar, & Smith, 2004), and many of the findings are incorporated into the 2004 OSEP Blue Ribbon Task Force Report, which currently serves as a national blueprint of quality indicators for SE doctoral programs.

Need for the Current Study

It has been more than 10 years since the data and information collection for *The Faculty Shortage Study* began. Since that time, changing events have radically altered the services delivered to students with disabilities. Similarly, the training received by the educators who provide services to students with disabilities has also evolved. Finally, the education knowledge base has expanded, giving educators a better understanding of these key issues:

1. Every student is entitled to the services of a well-trained, highly effective teacher.
2. No single educational practice or intervention produces uniform or universal results for all children.
3. Teachers must be knowledgeable about the growing array of evidence-based strategies and practices that improve the social and academic skills of students with disabilities.
4. The alignment of the *No Child Left Behind Act* (NCLB) and the *Individuals with Disabilities Education Improvement Act of 2004* (IDEA '04) requires that all teachers be highly qualified and well prepared.

This knowledge and context set the stage for a new, challenging, and exciting era, but the opportunity to truly improve results for students with disabilities will be lost if the personnel who provide services to these students and their families are insufficiently prepared.

- **Trained teachers who use scientifically validated and best practices make a difference**

Only a few years ago, the influence and advantages of a well-prepared teaching workforce were not clear. Politicians and much of the public claimed that those teaching in the nation's elementary and secondary schools did not need specialized training and that knowledge of evidence-based interventions or pedagogy was unrelated to improved results for students. Today, we have a different understanding. Teachers who graduate from programs that provide

extensive and specialized training improve results, in both behavior and academics, for students (Brownell, 2011).

Research findings indicate that well-prepared teachers produce strong student-learning outcomes. Teachers with more in-depth training report feeling better prepared at the beginning of their careers than those with less training (Boe, Shin, & Cook, 2007) and produce higher student achievement gains (Nougaret, Scruggs, & Mastropieri, 2005; Sindelar, Daunic, & Rennels, 2004), including larger gains in high-priority subjects such as reading (Brownell et al., 2007 as cited in Brownell, 2011; Feng & Sass, 2010). Linda Darling-Hammond and her colleagues (2005, 2006) report that certified teachers consistently produce significantly stronger student-achievement gains than do uncertified teachers. Laczko-Kerr and Berliner (2003) found that students of uncertified teachers achieve about 20% less academic growth per year than do students of certified teachers, supporting the researchers' conclusion that allowing uncertified teachers to work with our "most difficult-to-teach-children" is harmful. Using data from the national Schools and Staffing Survey, Boe and colleagues found that both special and general education teachers with extensive pedagogical and teaching practice were more effective than those with some or no preparation in these areas (Boe et al., 2007). In an assessment of teacher quality among California State University system graduates, Ken Futernick found that trained teachers produce better student achievement gains than do those who are untrained (Futernick, 2007). Using longitudinal data from Florida, Feng and Sass (2010) found that to have majored in special education in college or completed substantial coursework in special education as a means to earn special education certification was predictive of improved math and reading achievement for students with disabilities in the elementary grades.

Furthermore, teachers with extensive preparation are more likely to stay in the classroom (i.e., have a much lower attrition rate) (Dai et al., 2007; Rosenberg & Sindelar, 2005); these more experienced teachers, in turn, produce stronger student reading outcomes than those with less experience (Feng & Sass, 2010; Brownell et al., 2007 as cited in Brownell, 2011). In the aforementioned study, Futernick (2007) also determined that trained new teachers have a significantly higher likelihood of remaining in the classroom than those who assume classroom duties before completing teacher education programs.

If the ultimate goal of education is to produce productive citizens, then the long-term impact of teacher quality affects much more than student outcomes. Hanushek (2010) conducted an analysis of the economic value of teacher quality. He calculated that a teacher whose effectiveness was one standard deviation above the mean could be anticipated to generate a minimum of $400,000 *per year* (present-day value) in future revenue from a class of 20 students—higher revenues were anticipated from larger class sizes. Replacing ineffective teachers had an even stronger impact: "Alternatively, replacing the bottom 5-8 percent of teachers with average teachers could move the U.S. near the top of international math and science rankings with a present value of $100 trillion" (p. iii).

- **Teacher preparation programs' obligation to produce highly qualified SE teachers**

The term "highly qualified teacher" (HQT), as defined in Title IX, Section 9101(23) of the *Elementary and Secondary Education Act* (also known as *No Child Left Behind* or NCLB) is complex, controversial, and possibly misunderstood. Particularly for SE teachers at the middle- and

secondary school levels, compliance with NCLB proves difficult. It is almost impossible for an SE teacher to achieve the "highly-qualified" status in every academic area. When President George W. Bush signed IDEA '04 into law on December 3, 2004, the SE law was brought into alignment with many components of NCLB. Inherent within both laws is a belief that highly qualified teachers are those who have competency in both subject matter and effective pedagogy. Further, using both laws as leverage, many have called for the integration of evidence-based practices in K-12 classrooms. Answering this call necessitates teacher knowledge of current studies of effective interventions in addition to the skillful implementation of how to implement these interventions with fidelity. Consequently, teacher preparation programs face increased scrutiny as to the quality of their graduates, who must meet the new expectations.

- **Critical questions**

IHE faculty members are the primary source of new research involving effective interventions for students with disabilities. They are also the primary preparers of future teachers. Because the field of SE—most importantly, the outcomes of students with disabilities—is so heavily dependent on IHE faculty, some critical questions must be better understood:

- How has the supply/demand situation changed since the publication of *The Faculty Shortage Study*? More specifically, has the shortage of IHE SE faculty been reduced? Has the number and size of doctoral programs remained stable? Have the recruitment strategies changed to seek more doctoral students who aspire to IHE faculty positions? Do more doctoral programs have specific preparation-tracks to develop future faculty? Has the number of graduates seeking careers in higher education increased?
- What is the current mix of full- and part-time faculty, and is it producing sufficient numbers of highly qualified SE teachers who are able to improve the outcomes of students with disabilities?
- Does the nation have the capacity to prepare sufficient numbers of highly qualified SE teachers?
- Do the nation's doctoral programs have the capacity to prepare more highly qualified faculty to work in expanded roles at teacher education programs? Or must alternative strategies be developed not only to staff the nation's teacher education programs but also to ensure that new teachers are prepared to meet these increasing requirements and demands?

Topics of Interest Guiding the Current Study

To answer the questions above, the team of scholars from *The Faculty Shortage Study* collaborated with new partners to conduct a needs assessment to assist policymakers, education professionals, parents, and the public in developing appropriate actions to ensure improved results for children and youth with disabilities.

Seven tasks, and related surveys, were conceptualized for this needs assessment:

1. *Doctoral programs:* Assess the status and capacity of SE doctoral programs.
2. *Current doctoral students (pipeline):* Assess the demographics, career goals, and characteristics of current SE doctoral students who are in the pipeline.

3. *Recent graduates:* Determine the career paths, demographics, and other characteristics of two cohorts of SE doctoral graduates, five years of graduates who participated in *The Faculty Shortage Study* and five years of recent graduates.
4. *Teacher education programs:* Determine the basic characteristics of university-based SE teacher education programs (e.g., staffing patterns, projected retirements) and determine the demand for new faculty.
5. *OSEP-funded projects:* Determine the graduation rates of OSEP-funded doctoral students working on four-year projects initially funded in fiscal years 2000 and 2001.
6. *Doctoral student funding:* Conduct a comparison of funding levels for doctoral students across federal agencies.
7. *Chronicle triangulation*: Validate supply/demand variables identified in the surveys of SE doctoral and teacher education programs.

Chapter 2. Special Education Doctoral Programs and Special Education Teacher Education Programs

Characteristics of SE Doctoral Granting Institutions

Within the last 10 years, significant shifts in the landscape of doctoral programs in special education (SE) have occurred. Four of the 84 programs included in *The 2001 Faculty Shortage Study* (Smith, Pion, Tyler, Sindelar, & Rosenberg, 2001) have closed, 11 new doctoral programs have opened, one previously closed program has reopened, and three programs expanded from offering an SE emphasis to an SE doctorate. About half (n=5) of the 11 new programs are offered online through for-profit institutions of higher education (IHEs). These changes have results in an overall net increase of 15 new SE doctoral programs.

A majority of the doctoral programs are public (80.9%) and operate on a semester system (91.1%). Over half of the SE programs offer concentrations in general SE (mild/moderate and/or cross-categorical disabilities), learning disabilities, emotional or behavioral disabilities, and early childhood or early intervention. Less than 10% offer concentrations in speech and language impairments, physical disabilities, SE for youth in correctional facilities, deaf/blindness, other health impairment, or traumatic brain injury. None of these doctoral programs offer a concentration in adapted physical education or SE (non-disability specific). A breakdown of SE concentrations across IHE doctoral programs is included in Figure 3.

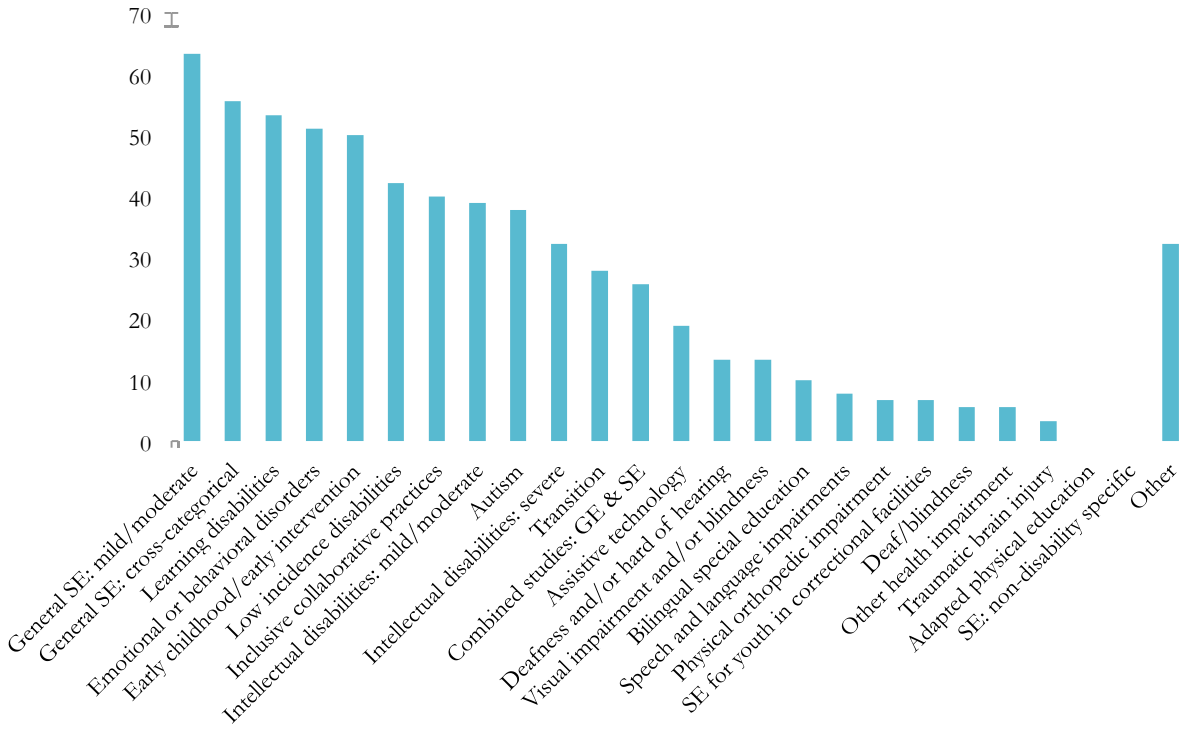

Figure 3. Percentage of IHE doctoral programs offering SE concentrations.

Many of these programs provide financial support for their doctoral students, most often in the form of tuition waivers. A little over half offer traineeships funded by training grants (e.g., support from a training grant from the U.S. Department of Education).

The size of the programs and the number of graduates they produce varies. Almost a third of programs reported having more than 18 students currently enrolled and producing more than three graduates per year. An additional 29% of these programs have at least 13 graduate students currently enrolled and produce at least two graduates per year. Many new programs, despite having students in the pipeline, had produced few, if any, graduates at the time of the SEFNA Task 1 study. Based upon these data, we hypothesize that the percentage of SE graduates produced will continue to increase.

- **Characteristics of IHE Faculty**

Almost all of the programs have tenured faculty positions; doctoral program faculty are more likely to be in a tenured or tenure-track position. The doctoral programs have an average of six faculty members in tenured positions and two more in tenure-line positions (i.e., faculty who have not yet earned tenure). Only a small number are in research faculty (non-tenure line) positions. Regardless of the type of position faculty occupy, a majority report allocating all of their time to SE.

The ethnic and racial diversity of SE faculty continues to be an issue of importance. A total of 17% of faculty self-report belonging to an historically underrepresented group. Specifically, 83% of IHE faculty self-identify as white, 7% as Black or African American, 4% as Asian, 4% as American Indian or Alaska Native, 1% as Native Hawaiian or Pacific Islander, and 1% as Bi- or Multi-racial. Further, only 4% of IHE faculty identified their ethnic identity as Spanish, Hispanic, or Latino.

- **The increased capacity of SE doctoral programs**

The capacity of SE doctoral programs has increased. Compared to the findings of *The Faculty Shortage Study*, the Special Education Faculty Needs Assessment (SEFNA) project found that there were 16% more doctoral programs in SE in 2009 (97 programs total) than in 1999 (82 programs). These programs also demonstrate the ability to enroll and graduate more students. In 2007, it is estimated that 296 SE doctoral degrees total or an average of 3 degrees per program were awarded, compared to 213 SE doctoral degrees total or an average of 2 degrees per program in 2002. This represents an increase of 28% in the number of graduates produced in 2002. In 2009, 56 programs reported serving seven or more doctoral students and producing at least two graduates a year, compared to the 45 programs in 1999 that reported the same statistics.

Furthermore, the percentage of SE doctoral students who want to enter faculty positions has increased by 12% over the last 10 years. Consistent with this trend, approximately 56% of graduates held faculty positions.

Characteristics of SE Teacher Education Programs

For this study, SE teacher education programs are defined as those IHEs that have bachelor's and master's programs, but do not have doctoral programs. Of those Teacher Education (TE) programs surveyed, about half are public and half are private (50.9% and 49.1%, respectively). Most operate on a semester system. Further, the programs included in our sample are located in a variety of locales. About 40% are located in urban or suburban areas. About a quarter are located in rural areas[1] (see Appendix A).

The characteristics of these programs are unlike those of the doctoral programs. The range of concentrations offered at the teacher preparation programs is much more limited than those offered at doctoral training institutions. The largest area is general SE (mild/moderate), with about 60% of teacher preparation programs offering this concentration. About 45% offer a concentration in learning disabilities, combined general and SE, general SE (cross-categorical), or intellectual disabilities (mild/moderate) concentrations. Less than 30% of all teacher preparation programs offer the other concentrations (e.g., autism, deaf/blindness, physical/orthopedic impairment, visual impairment or blindness). Further, no teacher preparation programs offer a concentration in other health impairments, transition, or SE (non-disability specific). A breakdown of SE concentrations across programs is included in Figure 4.

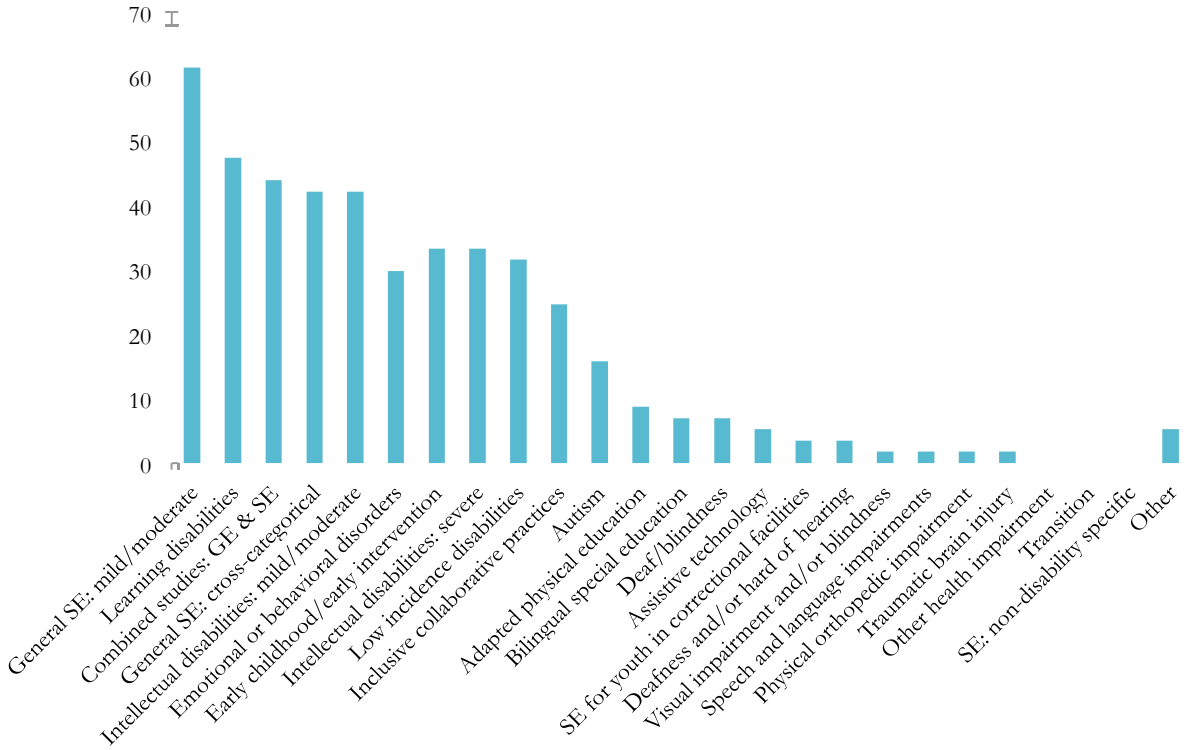

Figure 4. Percentage of SE teacher education programs offering SE concentrations.

[1] Our strategy was to over-sample teacher preparation programs in rural locations. More information on study methodology can be found in Appendix A.

On average, across all SE licensure programs, these programs have 3 full-time, tenure track faculty teaching at their institution. This is in addition to an average of four adjunct course instructors, one full-time, non-tenure track instructor, and less than one graduate student instructor. This means that, on average, courses in these programs are less likely to be taught by a full-time, tenure-track instructor. Overall, survey respondents indicated that their course instructors were:

- Adjunct course instructors (51.1%)
- Full-time tenured or tenure-line faculty (37.0%)
- Full-time non-tenured or non-tenure line faculty (10.2%)
- Graduate student instructors (1.7%)

Although diversity of faculty is an issue at the doctoral granting intuitions, the problem is somewhat more pronounced at those programs with only teacher preparation programs. A total of 14% of faculty self-reported belonging to a historically underrepresented group. Specifically, 86% of SE teacher preparation faculty self-identify as white, 10% as Black or African American, 2% as Asian, less than 1% as American Indian or Alaska Native, less than 1% as Native Hawaiian or Pacific Islander, and less than 1% as Bi- or Multi-racial. Compared to only 4% of IHE doctoral faculty, 22% of SE teacher preparation faculty identified their ethnic identity as Spanish, Hispanic, or Latino.

The size of programs as evidenced by the number of graduates produced varies across programs. On average, these programs produced 45.7 new teachers in the 2008–2009 academic year (SD = 65.0, Median = 23.5). Furthermore, some of these programs produce a substantial amount of new teachers. One school reported producing 400 new teachers in 2008–2009, up from the 233 new teachers it produced five years earlier.

- **Programmatic Offerings of SE Teacher Preparation Programs**

Program directors of SE TE programs were asked to identify their program offerings five years ago and currently. When we look at program offerings from five years ago to the present, it is clear that program offerings have remained relatively stable. In general, most SE TE programs offer specializations in SE (mild/moderate), learning disabilities, intellectual disabilities (mild/moderate), and blended education (see Table 2). Programs for severe disabilities are not offered at the majority of SE TE programs.

Table 2
Program Specializations at SE TE Programs 5 Years Ago Compared to Present

Rank	Top 5 Past (5 Years Ago)	Top 5 Present
1	SE, mild to moderate	SE, mild to moderate
2	Intellectual disabilities, mild to moderate	Learning disabilities
3	Generic SE	Intellectual disabilities, mild to moderate
4	Blended: GE and SE	Blended: GE and SE
5	Intellectual disabilities, severe	Generic SE

- **Predicted Growth of SE Teacher Preparation Programs**

Program directors of SE TE programs were asked to identify their anticipated program offerings five years into the future. Data from SE TE program directors suggest that a strong trend is emerging toward adding more blended special and general education teacher preparation programs. Program directors are also projecting that by the year 2015 more early childhood and early intervention programs will be added to their departments.

Table 3
Predicted Program Specializations at SE TE Programs

Rank	Top 5 Future (5 Years)
1	SE, mild to moderate
2	Blended: GE and SE
3	Early childhood/Early intervention
4	Learning disabilities
5	Intellectual disabilities, mild to moderate
5	Generic SE

Note. There was a rank-order tie for the final two program specializations.

An examination of advertisements in *The Chronicle of Higher Education* supports this projection. Among advertised positions, 85% required some type of specialization. About 20% of those that required a specialization were looking for someone with expertise in early childhood and early intervention programs. The rest identified general SE (69%), learning disabilities (24%), or autism (18%) as the preferred area of specialization.

Comparison of Capacity Differences Among SE Doctoral Programs and Teacher Education Programs in SE

IHEs with both SE teacher preparation and doctoral training programs have emerged as unique sub-populations within our study. All SE doctoral training programs also have an SE teacher preparation program, but these schools only represent about 9% of the population of teacher preparation programs. The characteristics of these doctoral granting programs also make them unique (see Table 4). Those IHEs with both a doctoral and teacher preparation program average more than twice as many tenured or tenure-line faculty members as do those with only teacher preparation programs. As a group, they offer more specialty areas (e.g., transition, emotional or behavioral disorders, early intervention, assistive technology), and almost all of the low incidence disability programs (e.g., autism, low vision and blindness, hard of hearing and deafness) are located at these IHEs.

Table 4
Descriptive Comparisons between SE Doctoral and Teacher Preparation Programs

	IHE SE Doctoral Programs	IHE SE Teacher Preparation Programs
Type of university	**%**	**%**
Public	80.9	50.9
Private	19.1	49.1
Academic schedule	**%**	**%**
Semester	91.1	93.0
Quarter	7.8	7.0
Other	1.1	0.0
Concentrations Offered	**%**	**%**
General special education: mild/moderate	63.3	61.4
General special education: cross-categorical	55.6	42.1
Learning disabilities	53.3	47.4
Emotional or behavioral disorders	51.1	29.8
Early childhood/early intervention	50.0	33.3
Low incidence disabilities	42.2	31.6
Inclusive collaborative practices	40.0	24.6
Intellectual disabilities: mild/moderate	38.9	42.1
Autism	37.8	15.8
Intellectual disabilities: severe	32.2	33.3
Transition	27.8	0.0
Combined studies general education and special education	25.6	43.9
Assistive technology	18.9	5.3
Deafness and/or hard of hearing	13.3	3.5
Visual impairment and/or blindness	13.3	1.8
Bilingual special education	10.0	7.0
Speech and language impairments	7.8	1.8
Physical orthopedic impairment	6.7	1.8
Special education for youth in correctional facilities	6.7	3.5
Deaf/blindness	5.6	7.0
Other health impairment	5.6	0.0
Traumatic brain injury	3.3	1.8
Adapted physical education	0.0	8.8
Special education, non-disability specific	0.0	0.0
Other (e.g., customizable disability concentrations, special education administration, special education policy analysis and research)	32.2	5.3
Faculty composition	**Avg. #**	**Avg. #**
Average number of full-time, tenure-track faculty	8	3

Table 4 (Continued)
Descriptive Comparisons between SE Doctoral and Teacher Preparation Programs

	IHE SE Doctoral Programs	IHE SE Teacher Preparation Programs
Faculty racial diversity	**%**	**%**
White	83.0	86.0
African American or Black	7.0	10.0
American Indian or Alaska Native	4.0	>1.0
Asian	4.0	2.0
Bi-racial or Multi-racial	1.0	>1.0
Native Hawaiian or other Pacific Islander	1.0	>1.0
Faculty ethnic diversity: Spanish, Hispanic, Latino	**%**	**%**
Spanish, Hispanic, or Latino	4.0	22.0
Non-Spanish, Hispanic, or Latino	96.0	78.0

Although they represent only 9% of the SE IHE programs in the United States, it is clear that SE doctoral programs hold a significant proportion of grants and contracts (see Table 5). For both the IES SE Research Program and the SE Research Training Program, SE doctoral faculty hold at least three-fourths of these IES active projects. This suggests that they are a significant contributor to the nation's SE research. These faculty are both the predominate producers of research as well as the suppliers of the next generation of researchers. An examination of OSEPs discretionary grants program reveals that faculty at SE doctoral programs also hold a vast majority of personnel preparation grants. They hold fewer technical assistance center contracts (centers that work with the states and are often operated by non-IHEs). It is no surprise, then, that during the most-recent job search period (2010–2011) 33% of faculty searches came from these IHEs.

Table 5
Active Special Education Grant Programs by Grantee Type

Grant Program	Total Active Projects	Grantee Type					
		Non-IHEs		SE TE Programs		SE Doctoral Programs	
	N	n	%	n	%	n	%
IES Research Grants							
SE Research Program	189	23	12.2	25	13.2	141	74.6
SE Research Training Program	10	0	0.0	1	11.1	9	88.9
OSEP Discretionary Grants Program							
Personnel Preparation Program	233	1	0.5	66	28.3	166	71.2

Note. The non-IHE grantee category includes non-university affiliated research organizations, for example, Westat, SRI International, and AIR. IES Research Grant projects include those active as of April 2011. OSEP Personnel Preparation projects include those active as of July 2011.

Chapter 3. Market Supply: Special Education Doctoral Students and Recent Special Education Doctoral Graduates

Characteristics of Special Education Doctoral Students in the Pipeline

It is hard to be a doctoral student.

My program rocks!

My experience has been excellent, high quality, fully funded, and the professors come to my location. What more could I ask for?

– Comments from the *Doctoral Student Survey*

Statistically speaking, the typical student enrolled in a doctoral program is female, married, has one child, and is a native-born U.S. citizen. Although faculty diversity is an issue for doctoral granting intuitions and teacher preparation programs, the number of students currently in the pipeline who self-report belonging to a historically underrepresented group indicates racial diversity is improving. Seventy-four percent of students in the pipeline self-identify as white, 11% as Black or African American, 8% as Asian, 4% as Bi- or Multi-racial, 2% as American Indian or Alaska Native, less than 1% as Native Hawaiian or Pacific Islander, and less than 1. Approximately 6% of students in the pipeline identified their ethnic identity as Spanish, Hispanic, or Latino. Further, of those in the doctoral student pipeline, 7.1% report having a disability, a number very close to the national percentage of graduate students with a disability[2]. On average, students were 36.5 years old when they began their doctoral degree program.

A vast majority (61.1%) of the current special education (SE) doctoral students surveyed in Task 2 had aspirations of entering academia as a faculty member upon graduation. A small portion relocated to attend a doctoral program of choice (24%); regardless of relocation, most enrolled full-time (67%). In terms of where students were in the pipeline, the largest percentage (56%) are completing required coursework. Almost 20% have had their dissertation proposal accepted and presumably are close to completing their doctorate. The remainder of students are somewhere in-between.

Characteristics of Recent SE Doctoral Graduates

It was a great experience, the most important phase of my life.

It helped prepare me for the rigors of academia.

It was a tremendously difficult time emotionally, financially, and physically because so much was demanded of a doc student in the program. However, I believe that is why I was so well prepared.

Don't waste the time or money.

– Comments from the *Doctoral Graduate Survey*

[2] According to the National Center for Education statistics, 7.6% of graduate students (masters and doctoral students combined) have a disability (http://nces.ed.gov/programs/digest/d10/tables/dt10_240.asp).

The profile of recent graduates is similar to that of current students in the pipeline. The average graduate from SE doctoral programs in the last 10 years is female, married, has one child, and is a native-born U.S. citizen. Approximately 20% of recent graduates self-report belonging to a historically underrepresented group, which is also an indicator that racial diversity is increasing. About 80% percent of recent graduates self-identify as white, 9% as Black or African American, 7% as Asian, 3% as Bi- or Multi-racial, and less than 1% as American Indian or Alaska Native or Native Hawaiian or Pacific Islander. Equivalent to students in the pipeline, approximately 6% of recent graduates identify their ethnic identity as Spanish, Hispanic, or Latino. These data are consistent with similar data reported in the 2008 Survey of Earned Doctorates (see Table 6).

Table 6
Racial and Ethnic Diversity of SE Doctorates Compared to All Doctorates

	2008 Survey of Earned Doctorates (All Doctoral Degrees)	2008 Survey of Earned Doctorates (All Education Doctoral Degrees)	2008 Survey of Earned Doctorates (SE Doctoral Degrees Only)	2008 SEFNA (SE Doctoral Degrees Only)
Race				
White	72%	73%	75%	80%
Black or African American	7%	14%	11%	9%
Asian	13%	4%	10%	7%
Bi- or Multi-racial	2%	1%	*	3%
American Indian or Alaska Native	<1%	<1%	<1%	<1%
Native Hawaiian or Pacific Islander	-	-	-	<1%
Ethnicity				
Spanish, Hispanic, Latino	5%	6%	4%	6%
Non-Spanish, Hispanic, Latino	95%	94%	96%	94%

Note. In the *2008 Survey of Earned Doctorates* data, Asian, Native Hawaiian, and Pacific Islanders are included in the Asian category. *The *2008 Survey of Earned Doctorates* data also does not report on the percentage of individuals who self-identify as bi- or multi-racial. Differences in percentages between the Survey of Earned Doctorates and SEFNA may be the result of different response rates.

Compared to students in the pipeline in 2009, a slightly lower percentage of recent graduates have a disability (6.6%). This is compared to the 1.5% of all doctoral recipients and 2.6% of doctoral recipients in education who have a disability (Table 25 of NSF/NIH/USED/NEH/NASA, 2009 Survey of Earned Doctorates). On average, recent graduates were 35.8 years of age when they began doctoral study and took five years to complete their degree. Over 25 years ago, Pierce and Smith (1994) conducted the first study to monitor the age of new SE graduates. Between 1994 and 2001, the mean age of those receiving doctorates steadily increased; however, since the release of *The 2001 Faculty Shortage Study* (Smith, Pion, Tyler, Sindelar, & Rosenberg, 2001), the average age of graduates appears to be decreasing (National Opinion Research Center [NORC], 2010).

Many recent graduates (61.1%) had aspirations to become faculty members upon entering their doctoral program and most (55.6%) accomplished this goal. About a third (31.4%) relocated to attend their doctoral program of choice, and a larger proportion (39.9%) relocated to assume their

current position. Fellowships, scholarships, or graduate assistantships were cited as the most common forms of support for graduate school (27.5%). Fewer had research assistantships (13.9%), traineeships funded via training grants (13.9%), or teaching assistantships (9.5%) as their primary source of support.

- **Differences in SE doctoral graduates in academic and non-academic positions**

A statistical comparison of means, based on a number of variables, was conducted to detect differences in graduates who entered faculty positions and those who entered non-faculty positions (see Table 7). Slight differences between the profile of those in faculty positions and those in non-faculty positions (e.g., teachers, special education service providers, educational administrators, independent researchers) were noted.

Graduates who assumed positions outside of institutions of higher education (IHEs) tended to be older than their peers at the time of enrollment, and they were more likely to be male. They were also less willing to relocate for graduate school or employment, took longer to graduate, had less funding, and were less linguistically and culturally diverse. Those who assumed IHE positions tended to be younger than their peers at the time of enrollment, and they were more likely to be female. They were more willing to relocate for graduate school or to take a position, graduated more quickly, had more funding, entered graduate school with faculty aspirations, and were more linguistically and culturally diverse. Differences were also detected for financial support, specifically teaching assistantships, research assistantships, traineeships, or fellowships. Those receiving this assistance as their primary source of support were more likely to pursue academic careers. This ties directly to the key predictors listed the next section: Those who received these forms of financial assistance were able to attend school full-time and thus finished their programs faster, resulting in a lower time-to-completion ratio than was the case among their non-faculty counterparts. Finally, a difference between faculty and non-faculty in terms of elapsed time between degrees was detected. Regardless of the time between different degrees (e.g., elapsed time between BA and PhD/EdD, elapsed time between enrolling in the doctoral program and receipt of degree, etc.), those who went on to become faculty members were more likely to complete the degree more quickly than were those who went on to become non-faculty.

The impact of funding: Comments from current doctoral students

The only reason I relocated is because my entire tuition was waived and I received $17,000 stipend a year for three years. That was the only way I could sell my house and quit my job and move to the other side of the coast for the PhD program!

I have been very fortunate to have received financial support through [name of program]. I would not have gone back to graduate school had it not been for this opportunity to study and have the financial support to pursue my doctorate.

I don't know how others do it. I am finding it very difficult to continue my studies while working full time, particularly now in the last stages of my program when many of my classes have required mini-research studies.

An enormous concern is the Residency requirement—one year during which doc candidates are prohibited from holding full-time employment. I need to work full time to meet my financial obligations.

Table 7
Differences in Special Education Graduates Entering Faculty and Non-faculty Positions

Characteristic	Faculty (n=307)	Non-faculty (n=245)
Percentage who were female*	53.4	46.6
Percentage who were underrepresented minorities	55.0	45.0
Percentage who were married or living together	55.2	44.8
Percentage who had dependents	57.4	42.6
Percentage who planned to be faculty upon entering the program***	71.3	28.7
Percentage who relocated to begin PhD/EdD***	68.8	31.2
Percentage who relocated to take their current job***	79.5	20.5
Percentage who had a TA, RA, traineeship, or fellowship*	61.9	38.1
Percentage who regarded TA, RA, traineeship, or fellowship as their primary source of support**	61.2	38.8
Percentage who regarded earnings from a job as their primary source of support	40.6	59.4
Age when enrolling in doctoral program***	34.7	37.5
Elapsed time between BA and MA*	5.7	6.8
Elapsed time between MA and PhD/EdD***	10.2	12.5
Elapsed time between enrolling in the doctoral program and receipt of degree***	4.5	5.6
Elapsed time between BA and PhD/EdD***	15.6	19.1

Note. Graduates in the faculty category include those teaching and/or conducting research in a college or university in tenure-track, non-tenure track, post-doctoral or adjunct positions). Graduates in the non-faculty category include those teaching or providing direct services in an elementary school, school system, or other type of organization; serving in educational administrative roles; and conducting research and evaluation studies in non-university affiliated organizations. ***p<.001, **p<.01, *p<.05.

- **Key predictors of pursuing an academic career in SE**

Because differences were detected between those who entered faculty positions and those who entered non-faculty positions, a logistic regression was computed to predict the probability of entering academia based on variables of interest (see Table 8). Five predictors were found to increase the odds of becoming a faculty member. More specifically:

- Those who enter doctoral programs with faculty career intentions were nine times more likely to become faculty.

Job satisfaction: Comments from recent graduates in faculty positions

I was well prepared for future employment. My first job after receiving my doctorate in higher education was at [name of university]. It was a research position. I am currently employed at [another university] as an assistant professor. The focus is on instruction. I feel that I was well prepared for both positions.

My position is largely administrative, although I am a tenured faculty member now. This job is the most difficult I have ever had (and I worked for over 32 years with K-12 students diagnosed with emotional disturbances!!). At the same time, it is the most exciting job I've ever had.

- Every additional year of age among those beginning a doctoral program decreased the odds of that person becoming a faculty member by 2.6 times.
- A one-year increase in time to complete the doctoral degree decreased the odds of becoming a faculty member by two times.
- Those willing to relocate after graduation were nine times more likely to take a faculty position upon completing their degree.
- Holding a teaching assistantship, a research assistantship, a traineeship, or a fellowship increased the odds of being a faculty member almost two times.

The first four predictors were also found in *The Faculty Shortage Study*; the fifth predictor is unique to the present study.

Table 8
Logistic Regression Predicting Probability of Faculty Career

Variable	B	SE B
Female	-.178	.319
Underrepresented minority	-.329	.275
Had at least one child	.354	.226
Relocated to enroll in graduate school	.358	.238
Relocated to take a position***	1.597	.266
Planned to be faculty upon entering graduate school***	1.608	.238
Had a TA, RA, traineeship or fellowship*	.483	.219
Married	.181	.281
Age at time of enrolling in graduate school*	-.023	.015
Time to complete doctoral degree*	-.136	.059

***p<.001, **p<.01, *p<.05.

- **Profile of graduates pursuing an educational leadership career in SE**

Though a larger percentage of SE graduates are entering academe, it is important to understand the profile of those who continue to seek an educational leadership career in SE. This group includes those serving in positions such as program directors, professional development directors, principals, and other types of educational administrative positions.

Graduates filling educational leadership roles are most likely to be female, married, white, have one or two children, and be a native-born U.S. citizen. Compared to those who pursue faculty careers, a slightly lower percentage of recent graduates

Job satisfaction: Comments from recent graduates in non-IHE positions

Having my doctorate has opened up many avenues for me in my position as special education director. I'm constantly used as a resource for best practices, evidence-based information, and what is happening in the field of special education. I am an avid reader and writer (when I have the time), so my conversations with my [name of university] network are essential to my continuous growth and learning. I can't say enough good about my experience and what it has opened up to me! It is amazing—on a daily basis!!

My plan has always been to own my own consulting business and I have finally reached that point. I could not acquire the consulting and training work/clients that I have now without a Ph.D. I also have been able to write and publish two books since I graduated.

who assume leadership positions have a disability. On average, recent graduates were 39 years of age when they began doctoral study and took six years to complete the degree. At the time they entered their doctoral program, only half of these individuals had aspirations of becoming educational leaders. About a third had aspirations to pursue a faculty career. Only a small percentage of these graduates relocated to attend their chosen doctoral program, and a comparable proportion relocated to assume their current position. Few had teaching assistantships, traineeships funded through training grants, or research assistantships as a source of support. Among those who did have this type of support, a little over a third cited it as their primary source of support for graduate school.

Table 9

Descriptive Differences in Special Education Graduates Entering Faculty and Educational Leadership Positions

Characteristic	Faculty (n=307)	Ed. Leadership (n=92)
Percentage who were female	53.4	88.0
Percentage who were underrepresented minorities	55.0	23.0
Percentage who were married or living together	55.2	24.0
Percentage who had dependents	57.4	65.2
Percentage with a disability		4.0
Percentage who planned to pursue this type of position upon entering graduate school	71.3	50.0
Percentage who relocated to begin PhD/EdD	68.8	15.0
Percentage who relocated to take their current job	79.5	19.0
Percentage who had a TA, RA, traineeship, or fellowship	61.9	17.3
Percentage who regarded TA, RA, traineeship, or fellowship as their primary source of support	61.2	30.2
Percentage who regarded earnings from a job as their primary source of support	40.6	36.1
Age when enrolling in doctoral program	34.7	39.0
Elapsed time between enrolling in the doctoral program and receipt of degree	4.5	6.0

Note. A statistical comparison of means was not calculated for these two groups. Graduates in the faculty category include those teaching and/or conducting research in a college or university in tenure-track, non-tenure track, post-doctoral, or adjunct positions). Graduates in the educational leadership category include those serving as program directors, professional development directors, principals, or other educational administrative positions.

Chapter 4. Demand for Special Education Faculty

Demand in SE Compared with Other Academic Fields

The field of special education (SE) appears to be substantially different from other fields in terms of the balance between the supply of doctorates and the demand for these individuals. The U.S. supply/demand imbalance between those obtaining PhDs in the sciences and engineering and those securing tenure-track academic positions is well documented (Cyranoski, Gilbert, Ledford, Nayar, & Yahia, 2011). For example, "in 1973, 55% of US doctorates in the biological sciences secured tenure-track positions within six years of completing their PhD" (Cyranoski et al, 2011). By 2006, this number had dwindled to 15%.

More-recent estimates are included below in Table 10. Approximately half of those with doctorates in the life sciences and the social sciences entered academe post-graduation. Job prospects were less advantageous for those in the physical sciences and engineering. Given recent reports that those with doctoral degrees in the humanities are less likely to enter academe (Semuels, 2010), it is surprising that 85% of recent graduates were able to secure a tenure-track position. We hypothesize that this is correlated with the decline in the percentage of doctorates awarded in the humanities over the last decade.

Unlike in the sciences and engineering, demand for special education graduates remains robust. The percentage of doctoral graduates pursuing an academic career has increased 11% over what was found by *The 2001 Faculty Shortage Study* (Smith, Pion, Tyler, Sindelar, & Rosenberg, 2001). Further, according to trend data from the Survey of Earned Doctorates, over the past seven years an average of 59% of doctoral recipients in special education entered academe, compared to only 50% between 1995 and 2001.

Table 10
Percentage of Doctoral Graduates Entering Academe Post-Graduation in Sciences, Engineering, Humanities, Education, and Special Education

	% Entering Academe Post-Graduation
2009 Survey of Earned Doctorates	
Life Sciences	50.0
Physical Sciences	35.0
Social Sciences	62.5
Engineering	14.5
Education	50.1
Humanities	84.9
SEFNA	
Special Education	55.6
2001 Faculty Shortage Study	
Special Education	45.0

Note. Data source for 2009 Survey of Earned Doctorates is Table 42.

Although the job market experienced a dip in demand in 2009 (54% fewer positions advertised), by 2010 the market showed significant signs of improving (55% more positions advertised). Even with that decrease in SE faculty searches in 2009, a gap between the supply (the number of graduates produced) and the demand (the number of advertised faculty positions) was still not met. In other words, there were not enough graduates to fill these positions. Surprisingly, despite this market imbalance, most faculty searches were successfully filled in one year. Data gathered from job-search coordinators indicated that during the 2010-11 academic year, 79% of job searches in SE ended successfully with a candidate accepting a position. This is slightly higher than the 70% job search success rate reported in *The 2001 Faculty Shortage Study* (Smith, Pion, Tyler, Sindelar, & Rosenberg, 2001). Of those ending without a candidate accepting a position, no special education faculty lines were eliminated. This finding is unlike that of *The 2001 Faculty Shortage Study* (Smith, et al., 2001), which found that 20% of unsuccessful searches resulted in the termination of the search and the closing of the unfilled position. Despite media coverage related to the downsizing or closure of various doctoral programs in the humanities and education (Semuels, A., 2010), SE doctoral and teacher preparation programs are not closing. Further, 67% (n=4) of universities with unsuccessful job searches during the 2010-11 academic year anticipate re-advertising the position in the following academic year (2011-12). The remaining 33% (n=2) do not anticipate re-advertising in 2011 despite not losing the faculty line due to an unsuccessful search.

Job Prospects and Security for SE Faculty

As mentioned earlier, the number of SE doctoral programs has increased over the last 10 years. As a result, faculty searches remain vigorous. It is no surprise; therefore, that 73% of graduates who planned to become faculty upon entering graduate school have gone on to do so. Further, 31% of those who did not plan to become faculty upon entering graduate school modified their career paths and entered academia.

Compared to the findings of *The Faculty Shortage Study*, the number of graduates who assume faculty positions has increased by almost 11% over the last 10 years, from 45.0% to 55.6%. Furthermore, according to the data from both the earlier study and the current one, 90% of SE graduates who work as faculty remain full-time. Many of the remaining 10% have retired but continue to work on a part-time basis to ensure program continuity until such time that a replacement can be found.

Examining recent job searches, it is evident that job prospects remain high for newly minted PhDs. Of the 43 positions advertised between June and October 2010, 51% were at the assistant level, 21% were at the assistant/associate level, 9% were at the associate/full professor level, 14% were open rank, and 5% were at other levels (see Figure 5). Clearly, this indicates that there is a preference for replacing retiring faculty with junior level faculty. Most of these advertised positions were for vacant positions (65%), and the rest (35%) for newly created ones. Of those advertised to fill vacant positions, only 15% were from searches previously postponed due to a mandated hiring freeze. Further, 45% were being advertised due to faculty retirement and 36% due to a former faculty member accepting a new position elsewhere (half of which were new, non-university positions and half were new positions at another university). On average, 27 applications were received (range: 5–65 applications), eight of which were received from applicants considered qualified for the position (range: 1–25).

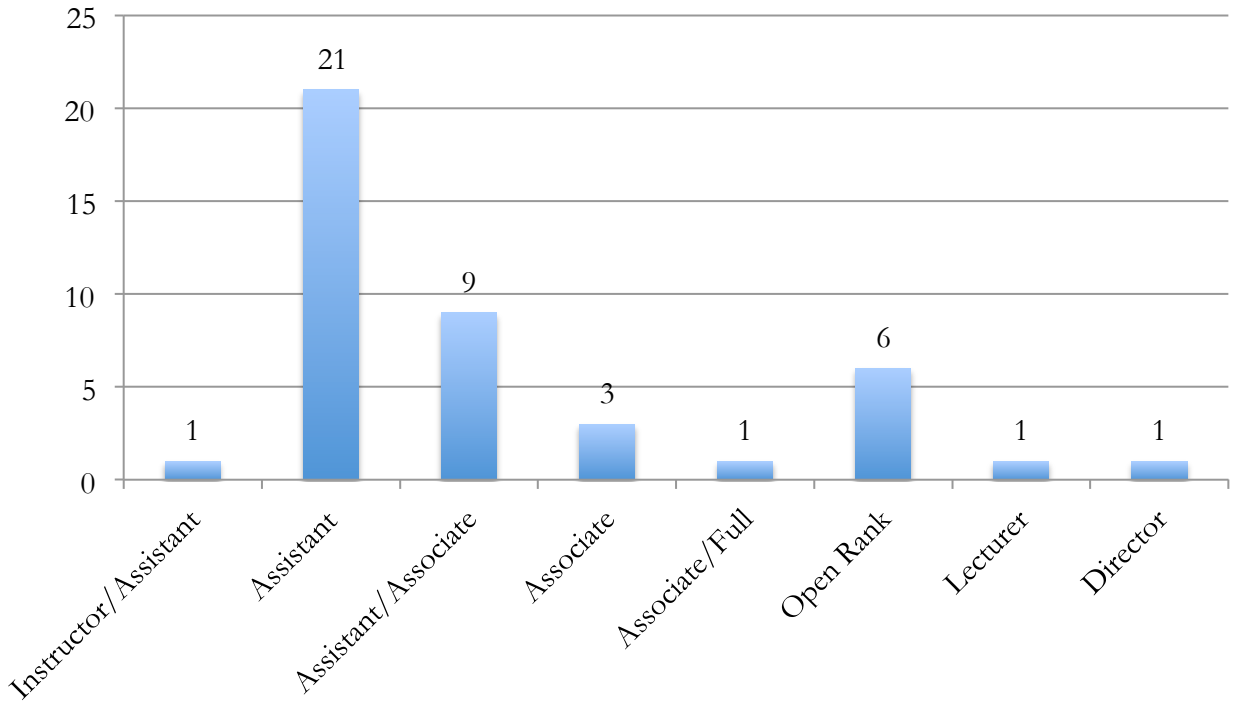

Figure 5. Number and Type of Position Advertised.

Profile of Recent SE Faculty Searches

To triangulate findings associated with doctoral granting IHEs and SE teacher preparation programs, we reviewed advertisements for SE positions posted in *The Chronicle of Higher Education* from June 2010 through October 2010. A total of 43 SE faculty positions were advertised during this time.

As we mention in the previous section, of the positions advertised, 65% were to fill a vacant position. In 71% of these cases, the person vacating the position had already left the university sometime between 2007 and 2010. The remaining 29% were expected to vacate the position at the end of the 2010 – 2011 academic year. Job search coordinators indicated that a majority (41%) of vacant positions were due to faculty retirements, 23% were due to the acceptance of a new position at another university, 18% were due to the acceptance of a new non-university position, and 18% were due to other issues (e.g., fit issues, faculty member recently deceased).

Job search coordinators were also asked about the alignment between the responsibilities of the person occupying the vacant position as compared to the job responsibilities listed in the job advertisement. Fifty-nine percent of job responsibilities were aligned with previous job duties, while 41% were not aligned. One of the reasons listed for job responsibilities not being aligned included responding to shifting market demands. More specifically, these programs needed to have faculty with expertise in mild/moderate general SE (30%), in generic SE (26%), inclusive/collaborative practices (21%), in learning disabilities (19%), in early childhood/early intervention (16%), and in autism (14%). These concentration areas align with program chair predictors for future program areas. We hypothesize that this could be related to why most of the advertised positions were at the junior level, possibly because only recently trained SE doctoral students have the skills and expertise

needed for these areas. The other reason listed included detailing job responsibilities commensurate with the type of advertised position. This was especially true in instances where senior faculty had retired and the job being advertised was at the assistant or associate level.

As we also mention earlier (page 28), in terms of the specifics about the job search, only 15% of the searches conducted between June 2010 and October 2010 had been previously postponed due to a hiring freeze. Thirty-five percent of the advertised positions were to fill a newly created faculty line. Reasons cited for the creation of the position include the start of a new program, increased enrollment, and shifting market demands. Regardless of whether the search was to fill a newly created position or a recently vacated one, on average, job coordinators received 27 applications, only eight of which were considered qualified for the position. As of August 2011, all of these searches had ended. Seventy-nine percent ended successfully with a candidate accepting the position.

The Continued Imbalance Between the Demand for New SE Faculty and the Supply of New Doctoral Graduates

The supply/demand imbalance associated with those obtaining SE degrees and those securing employment runs contrary to the national supply/demand imbalance. Figure 6 illustrates the supply/demand imbalance specific to SE. Data in the figure represent the number of graduates who reported pursuing degrees in academe (NORC) between 1999 and 2007 (green line), the number of entry level faculty positions advertised in *The Chronicle of Higher Education* between 2006 and 2010 (red line), and the expected number of faculty retirements at IHEs between 2011 and 2017 (blue line). Trend lines for demand (orange line) and supply (black line) are also included. Collectively, this graph illustrates the historical imbalance between the supply of special educators and the demand for them. Assuming the supply of new graduates who assume SE faculty positions continues to increase at the rate it has since 1999, it still will not be enough to meet the predicted demand. The supply/demand imbalance will be further exacerbated.

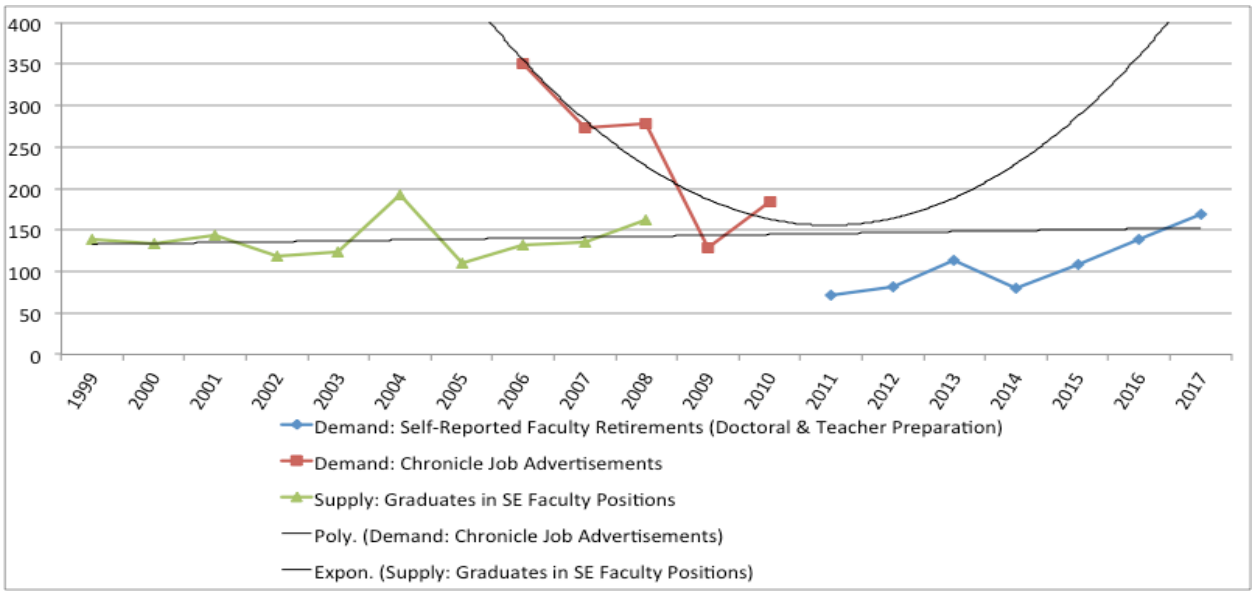

Figure 6. Supply and demand: History and projections.

Future Demand Issues

- **Impact of the Recession**

As noted above, the number of job searches decreased in 2009 but rebounded in 2010. Although IHEs implemented recession-related changes, such as staff hiring freezes and furloughs, it does not appear that the recession had a lasting effect on SE faculty vacancies. And, despite the increased number of new doctoral graduates assuming faculty positions, a substantial shortage exists today and will become greater as retirements compound demand. The temporary reduction in job opportunities did not result in a balance between supply and demand.

- **Forecasting Retirements**

Data collected from SE IHEs, SE teacher education programs, and coordinators for recent SE faculty searches suggest that retirements alone threaten to undermine much of the progress made on the supply side over the last 10 years (see Figure 6). Programs that offer doctorates in SE predict that, over the next five years, they will lose at least 50% of their faculty due to retirements alone. This emerging trend is supported by data from job-search coordinators, who report that almost half of the most recent job searches were to replace faculty members who had retired.

Although normal attrition due to promotion and job changes is to be expected, the number of retirements will surpass those in previous years. Most alarming is that these retirements will not be evenly dispersed across programs; rather, programs that offer doctoral degrees will experience a disproportionate share of the vacancies. Though the 97 doctoral programs in the nation represent only 9% of all SE personnel preparation programs, between half to two-thirds of their faculty will retire in the next five years. Each of these programs has an average of eight full-time equivalent (FTE) faculty. Therefore, between 388 and 582 doctoral faculty will be lost in the next five years. It is these programs that produce the primary supply of SE faculty for over 1,100 SE teacher preparation programs. Graduates of these programs then flow into the nation's schools as the next generation of teachers. Current caseload estimates average around 20 SE students per teacher; however, there is great variability from state to state. Some states report SE teacher/student ratios as low as 1:9, while others are as high as 1:35. If the flow of SE teachers slows, it is hypothesized that SE teacher caseloads will increase, which calls into question our ability to meet the needs of students with disabilities (See Figure 7).

Retirements across all SE programs (doctoral and teacher education combined) are predicted to increase by 21% per year between 2011 and 2017. Our best estimates suggest that, if we are to replenish the supply of faculty leaving SE doctoral programs and teacher education programs over the next several years, we will need to produce a total of 856 graduates per year, or nine graduates who go on to pursue an academic career, per doctoral program, per year. As of 2007, the average yearly production of SE doctoral degrees across the 97 programs was 3 per year, only a little over half of who (55.6%) went on to an academic career. Therefore, to meet predicted demand, each doctoral program would need to produce, per year, an additional 7.5 graduates who subsequently pursue academic positions. To maintain the current levels of those pursuing academic and non-academic careers, each doctoral program would need to produce an additional 15 graduates per year (7.5 graduates per year who pursue academic positions and 7.5

graduates per year who pursue non-academic positions). Improved supply cannot meet predicted demand.

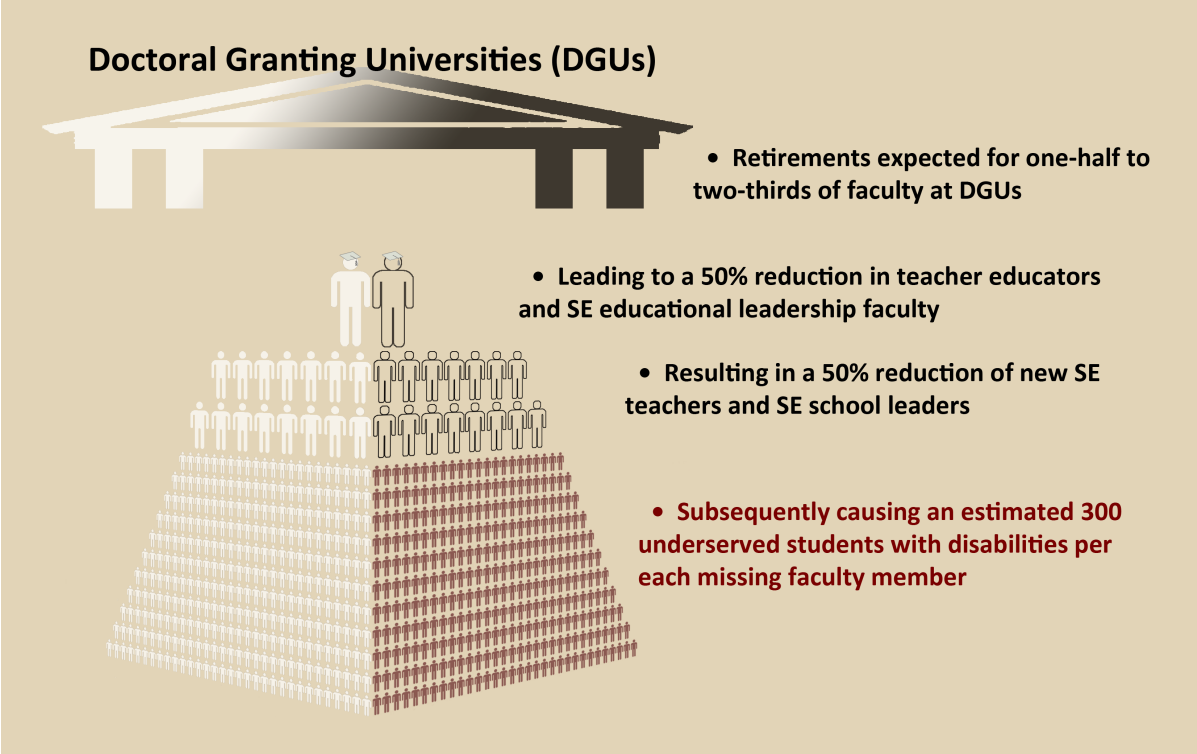

Figure 7. The impact of a shortage of SE faculty at doctoral granting universities on the number of SE teacher educators to prepare a sufficient supply of SE teachers necessary to provide appropriate SE services to students with disabilities.

- **Program Expansions**

Within the next five years, the vast majority of the teacher preparation programs we surveyed will begin to offer a blended general and SE program. More early intervention and early childhood programs are also being developed. In fact, 20% of the most recent job advertisements required a specialization in early intervention and early childhood programs. Due to these expansions, programs are also increasing the size of their faculty. Programs that created a new faculty line cited as their reasons the foundation of a new SE program or a need to respond to shifting market demands, among others.

- **Expanding Faculty Roles**

Another issue that will affect demand is the expanding roles of SE faculty. Data from the most recent job searches indicate that approximately 40% of job responsibilities are not aligned with those of the position's previous occupant, and that this change is a direct result of shifting market demands. Our data suggest that the blended GE and SE concentration will move from a rank of #4 to a rank #2 in the next five years indicating that more programs are predicting they will offer this specialization. In doing so, SE faculty members are being asked to prepare special *and* general education teachers to implement specific evidence-based practices, such as response

to intervention (RTI), universal design for learning (UDL), school-wide behavior management, and multi-tiered instruction. More general education teacher preparation programs address how teachers can better support the needs of all struggling learners, including students with disabilities, and SE faculty are increasingly assisting with this instruction. SE faculty are also predominately responsible for training future general educators on practices (e.g., progress monitoring) and frameworks (e.g., multi-tiered interventions such as RTI and positive behavioral interventions and supports [PBIS]).

Chapter 5. The Importance of OSEP's Doctoral Preparation Initiative

Graduation Rates of OSEP-Supported Doctoral Students

Since 1959, the Office of Special Education Programs (OSEP) has held annual competitions to award leadership (doctoral preparation) projects to universities to support doctoral students pursuing careers in special education (SE) or in a related service. OSEP's leadership preparation projects are four years in duration and offer a one- or two-year no-cost extension[3]. Beginning with the fiscal year (FY) 2000 projects, project directors have submitted annual reports to indicate each student's progress toward graduation. When a project is closed, a *Final Student Report* must be submitted to indicate the status (e.g., graduated, enrolled, transferred, dismissed, dropped out) of each student. However, due to intricacies in the reporting process, data about completion rates are often misleading and inaccurate. To help close this information gap, the Special Education Faculty Needs Assessment (SEFNA) project conducted a follow-up study to provide policymakers with a more complete assessment.

For FY 2000 and 2001, OSEP funded 30 leadership preparation projects. A total of 507 doctoral students across a six-year period were supported. By Fall 2006, each four-year project had completed its work or had used up its allocated funding, and each project director had submitted the required *Final Student Report*. Together, the FY 2000 and 2001 projects on the *Final Student Report* forms indicated a graduation rate of around 35%. That is, at the time these reports were submitted in October 2006, slightly more than one-third, or 175 students, had graduated. The flow of students graduating continued after the projects were closed; however, no means were available for project directors to communicate to OSEP additional information about students' successful attainment of the doctorate. Thus, the permanent record of the federal government indicates a low graduation rate; however, the SEFNA project's data reveal a very different story.

By the end of the Fall 2006 academic term—slightly more than two months after the final reports had been submitted—an additional 40 of the funded students had graduated. These doctorates raised the overall graduation rate to 54%. One year later, in December 2007, another 41 students joined the pool of graduates, raising the graduation rate to 62%. At the time of our data collection efforts—which reflect those who had graduated by the end of December 2008—another 42 students had graduated, making an overall graduation rate at that time of slightly more than 70%.

We then asked the directors of projects with students who had not attained doctorates by December 2008 to provide more information. They believed that 100 of these 150 students would complete their doctoral degrees because

- 75 were in the dissertation stage of their programs,
- 24 were actively enrolled in coursework, and
- 5 were on leave and were expected to return to doctoral studies some time in the future.

If these students actually obtained a doctorate, the overall graduation rate would be slightly higher than 90%. However, the rate is not anticipated to be much higher because

[3] A no-cost time extension is allowed by the federal government to allow project directors to complete the scope of work outlined in the original proposal. This extension does not provide additional funding for the project, rather it provides additional time to spend remaining funds.

- 30 had withdrawn from the program,
- 10 had been dismissed, and
- 6 were placed in the "other/unknown" category (e.g., transferred out of the doctoral program in question to another, completed degrees or certifications other than a doctorate, died, or were no longer in touch with faculty or the project director).

Funding Levels and Types of Awards

The project directors revealed great variability across funding packages provided to doctoral students. This variability occurred whether projects were awarded to the same university's departments or to institutions of higher education (IHEs) in different cities and states:

- Some three-fourths of the projects supported students for 12 months, whereas the remainder provided no summer stipends or tuition.
- The average stipend for full-time students receiving only nine months of annual funding was about $15,000 (in a range from less than $10,000 to $24,000).
- The average stipend for full-time students receiving 12 months of annual funding was about $17,000 (in a range from less than $15,000 to $27,000).
- The average amount of tuition allotment received during the academic year was about $8,500, which covered the full tuition obligation for about 80% of the students.
- Many projects provided students with support in addition to stipends and tuition. The results for all of the students combined indicated these types of additional support to students: travel (90% of students), book allowances (53%), other (e.g., fees, conference registration, supplies, and dues; 37%), and health insurance (30%).

Comparison of OSEP's Doctoral Preparation Initiative with Other Federal Agencies

A complete review of the federal agencies that support doctoral students in degree programs revealed that OSEP is the primary source of funding for SE. At the time of our analysis, the Institute for Education Sciences (IES) supported 15 doctoral training projects, and only one of these projects' abstract mentioned SE as a possible area of emphasis; that project is now concluded. Although the National Institute of Mental Health (NIMH) does have one program focusing on individuals with disabilities, the few projects it funds are awarded to centers that conduct basic research about disabilities. These projects are most often awarded to centers in hospital settings.

It also became clear that the OSEP initiative is different on many dimensions from others supported by the federal government. For example, at the time of this analysis, OSEP had the highest number of projects, the lowest overall size of total budgets, and the lowest financial support to students. Table 11 summarizes the funding patterns of all federal agencies' doctoral-program initiatives.

Table 11
Comparison of Doctoral Training Support Across Agencies

Agency	Typical Stipend Amount (12 mos.)	Typical Tuition Support (cost of education allowance)	Other Support (e.g., health insurance, travel funds, research support)	Annual Total	Maximum Duration of Funding
NSF– including GRF	$30,000	$10,500	provided through cost of education	$40,500	3 years of funding across 5 years
NIH: NICHD and NIMH	$20,772	Up to $16,000	$4,200	$40,972	5 years
OSEP	$17,000	$8,500 (varies greatly)	$1,500 (wide variation)	$26,000 (no limit specified)	4-year projects (no time-limit for individual students)
IES	$30,000 (default amount)	$10,500	$4,000 (additional requests allowed)	$41,500 (additional requests allowed)	5 years

- **Stipend comparisons**

Except for OSEP, the agencies examined here have pre-set students' stipend levels and have increased these levels in recent years. For example, in 2000, the graduate research fellowship (GRF) annual stipend level of $15,000 was deemed too low, and so beginning in 2001 the level has been consistently adjusted upward to its current annual level of $30,000.

The stipend support provided through OSEP is the lowest and most variable offered among the federal programs examined here (see Table 11). Stipend levels for full-time students, including those who only received funding during the academic year and those who received additional funding for the summer session, ranged from $9,000 to $24,000 per year, with the typical student receiving slightly more than $1,000 per month. About one third of the OSEP projects provided funding to students only during the academic year, but those who received funding for both the academic year and summer session received an average of slightly more than $1,400 per month.

- **Other educational cost comparisons**

In addition to stipends, every agency awards funds to help students meet at least some additional expenses (e.g., tuition, travel, research support, and health insurance). Tuition costs and waivers and other allowances vary by university; therefore, most agencies provide a limit but do not set an amount that must be allocated toward supporting costs. The support package offered

through OSEP projects is exceptionally low (see Table 11). Although some IHEs, out of non-project funds, provide health insurance options to OSEP-funded doctoral students, most do not. Slightly more than one-fourth of OSEP's projects provide students with a health insurance option. In 2006, National Institute of Health (NIH) made health insurance a priority, categorizing health insurance coverage as an allowable direct-cost expense through its related-expense category. In the case of those NIH-funded students who receive individual fellowships directly from the agency, IHEs may pay for health insurance through recovered costs[4] from the institutional allowance category. IES includes the provision of health insurance within the cost-of-education allowance "up to $10,500 per year per fellow for tuition, health insurance, and normal fees" (IES, 2008, p. 13). As recently as the 2011 request for proposals (RFP), OSEP was the only agency that did not mention the provision of health insurance in its application guidelines.

- **OSEP-funded projects**

In spring 2009, OSEP provided funding for 85 SE leadership preparation projects at 44 different public and private IHEs across the United States. About half of the nation's SE doctoral programs were recipients of OSEP-funded doctoral preparation projects. Although the majority of these programs had only one four-year project, 17 had more than one (i.e., nine had two, six had three, one had four, and one had seven).

[4] Recovered costs are the amount of money awarded to IHEs to support doctoral students who carry NIH fellowships.

Chapter 6. Implications and Recommendations

In the coming years the field of special education (SE) will face an unprecedented faculty shortage . Although great strides were made to resolve earlier shortages of special education researchers and teacher educators, the coming wave of retirements will by itself create a demand for new faculty that will far outstrip future supplies of new graduates. The SE enterprise in higher education was initiated some 50 years ago in response to the acceptance of students with disabilities into the sphere of public education. Clearly, it was challenging to supply the nation with sufficient faculty to staff the emerging special education programs. Although the field has faced a consistent shortage of faculty, the predicted supply/demand imbalance is of historic proportions. To meet projected demand, the nation's doctoral programs will need to produce over six times the current number of SE doctoral graduates. Because of retirements alone, in the coming years all special education programs will experience an annual turnover rate of 21%. However, doctoral programs will be hit particularly hard, needing to replace between 1/2 to 2/3 of faculty in the next six years. Unles abated, this shortage will impair the field's capacity to generate new knowledge and produce a sufficient number of SE teacher educators who can in turn produce enough well-prepared teachers to meet the needs of students with disabilities and their families.

We are confident in the evidence that now exists about the importance of a well-prepared education workforce (Bruder, 2010; Darling-Hammond, 2005, 2006; Futernick 2007, McLeskey & Billingsley, 2008; Smith & Tyler, 2011; West & Whitby, 2008). Well-prepared educators produce higher levels of educational achievement in their students, are happier, and stay in the profession longer than those who enter the workforce insufficiently prepared. Today, more students with disabilities are attending their neighborhood schools and learning alongside their neighborhood friends who do not have disabilities. General education teachers who implement a responsive education to all struggling learners, including those with disabilities, can avoid school failure for many of their students. The success of inclusive education and the optimism about continued and increased outcomes for students with disabilities in the future depends on the next generation of teachers being knowledgeable and able to implement research-based practices in their classrooms.

The shortage we are predicting comes at a particularly delicate time. Unlike other programs in higher education, such as the humanities, SE programs are not contracting. SE teacher educators are assuming important roles in the preparation of general education teachers. We found that more SE programs are developing to reflect the need for an increased number of early childhood/early intervention program specialists. Reflecting inclusive school-based practices, more blended general and SE teacher preparation programs are developing. And new SE faculty members are needed to initiate training in areas that reflect current research and practice (e.g., response to intervention [RTI], positive behavior instructional supports [PBIS], universal design for learning [UDL], autism).

We strongly urge education professionals and policymakers to seriously consider the implications of a substantial shortage of SE faculty. Those who work at doctoral programs are the suppliers of teacher educators and researchers. Even as SE teacher educators have worked to abate the nation SE teacher-shortage, they are also assuming more and more responsibilities for the preparation of general education teachers. In turn, the education workforce is responsible for improved outcomes for all students, a task in which they cannot possibly find success if they are not adequately prepared.

Recommendations

1. The federal role in the preparation of doctorates in SE was critical and effective in improving the supply of SE faculty and reducing the shortage of researchers and teacher educators. Federal intervention makes a difference. Therefore, because Office of Special Education Programs (OSEP) is the sole federal agency that supports SE doctoral programs, this program must be maintained and strengthened.

Action taken after findings from *The 2001 Faculty Shortage Study* (Smith, Pion, Tyler, Sindelar, & Rosenberg, 2001) were released, demonstrates that federal intervention can make a substantial difference in reducing a shortage of new doctorates in special education. We come to this conclusion by comparing specific findings relating to faculty supply from the 2001 study to those from the SEFNA project. That comparison indicates a

- 16% increase in SE doctoral programs,
- 24% increase in SE doctoral student enrollment,
- 28% increase in SE doctoral graduates,
- 12% increase of those entering doctoral programs wanting to be faculty, and
- 11% increase in the number of graduates becoming faculty.

2. Although challenging during these financial times, OSEP should find ways to a) increase the size of financial support it provides students so they can devote themselves to full-time study, and b) award more leadership projects to more doctoral programs.

To abate the impending shortage, more graduates seeking careers in higher education must be produced. The characteristics of those who are likely to assume careers in higher education are now well established: They are younger, more mobile, have faculty career-interests, receive financial support during their doctoral studies, and complete their programs quickly. SEFNA findings also strongly indicate that the capacity of the nation's doctoral programs would allow for wise investment by supporting more programs. Many doctoral programs without funding could well support more students and produce more graduates in a timely fashion.

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Appendix A. Study Design and Methodology

A study of this magnitude involves a number of participants and complex data collection and data analysis procedures. Each of these is detailed below by task, where appropriate.

Participants

Task 1: Doctoral programs. The study team identified a potential pool of 112 special education (SE) doctoral training programs. Follow-up phone calls to verify the university sampling frame decreased the sample population to 102 SE doctoral training programs. Programs were excluded if they were too blended[5], had recently closed, or reported no SE doctoral program, bringing the total number of SE doctoral programs to 97. Ninety-seven percent (n=94) of doctoral program coordinators completed a survey for Task 1.

Task 2: Current doctoral students. Doctoral program coordinators (n=102) assisted the study team by forwarding the online survey link to current doctoral students in their SE programs and reporting the number of students enrolled in the program at the time the survey was distributed. Based upon information provided by the program coordinators, a total of 1,779 students were enrolled in SE doctoral programs during the Spring 2009 academic semester. The final sample included 71.3% (n=1,263) of the 1,779 current doctoral students enrolled in 82 special education doctoral training programs.

Task 3: Recent graduates. Doctoral program coordinators were asked to provide contact information for students who had graduated from their program between 1997 and 2007 (n=102). Sixty-six programs complied with this request. Based upon this information, it was estimated that a total of 1,737 doctoral degrees had been awarded between 1997 and 2007. Validation of this data by the study team decreased the estimated number of doctoral degrees awarded during this time to 870. Approximately 71.0% (n=626) of the 870 graduates representing 66 doctoral training programs returned a completed survey.

Task 4: Teacher education programs. The Personnel Center at the National Association for State Directors of Special Education estimates that 1,100 university based teacher preparation programs were in operation across the United States during Fall 2009 (Gillespie, P., personal communication, February 20, 2008). It was not feasible for the study team to survey every SE teacher-training program. Therefore, a two-phased, non-probability, purposeful sampling approach was employed. First, a random sample of states representing the six U.S. regions of the national Technical Assistance & Dissemination Network was conducted in February 2008. States chosen for inclusion were Alaska, Arkansas, California, Georgia, Illinois, Kansas, Maine, Massachusetts, Michigan, North Dakota, South Carolina, and West Virginia. Second, a list of university based SE teacher-training programs located in these states was developed. For states with a large number of programs, 30% of university-based SE teacher-training programs were randomly selected for study inclusion. In states with only a small number of programs, all university-based SE teacher-training programs were selected for study inclusion to ensure adequate representation. Seventy-three teacher education

[5] Blended programs reported not being able to fill out our survey because they were too intertwined with the general education program or some other program not focused on special education with the College of Education at their schools.

programs were included in our final sampling list. Seventy-eight percent of teacher education program coordinators (n=59) returned a completed survey.

Task 5: OSEP leadership preparation projects. Thirty project directors, all of those initially funded in FY 2000 and FY 2001, provided and verified the information requested through the online surveys about all of their supported students who had not graduated by the submission of the final reports. One hundred percent (n=30) of project directors completed a survey for Task 5.

Task 6: OSEP leadership projects active in Spring 2009. During 2009, a total of 85 leadership projects with a specific focus of preparing doctorates in special education were active and in one of their four years of funding. Even though some universities had multiple projects, individual surveys were sent about each active project. Each director provided information about his or her project. Projects in a no-cost extension period were not included in Study 2. Ninety-five percent (n=81) of project directors returned a completed survey.

Task 7: SE positions posted in The Chronicle of Higher Education *(June 2010–October 2010).* Between June and October 2010, a total of 43 SE faculty positions were posted in *The Chronicle of Higher Education.* Job search coordinators listed in job advertisements were asked to provide information related to these positions. Eighty-eight percent (n=36) of job search coordinators returned a completed survey.

Data Collection Procedures

Task 1: Doctoral programs. During Fall 2008, an online Remark™ survey was sent to 101 SE doctoral program coordinators to gather information of interest. Questions included in this survey were based on *The 2001 Faculty Shortage Study* questionnaire and included additional questions generated by the present study team and OSEP (see http://www.cgu.edu/sefnasurveys for a copy of the survey). Each coordinator was given a financial incentive to assist with the gathering of information necessary to conduct this task, as well as Tasks 2 and 3 (e.g., reporting the number of recent graduates and current doctoral students, providing access to recent graduates via email).

Task 2: Current doctoral students. An online Remark™ survey was sent to 1,779 SE doctoral students enrolled in graduate school in Spring 2009. Once again, questions included in the survey were based on *The Faculty Shortage Study* questionnaire and included additional questions generated by the study team and OSEP (see http://www.cgu.edu/sefnasurveys for a copy of the survey).

Task 3: Recent graduates. Based upon the list provided by program coordinators, an online Remark™ survey was sent to 870 individuals who received their doctorate in SE between July 1999 and June 2009. As with the other tasks, questions included in the survey were based on The *Faculty Shortage Study* questionnaire, as well as questions generated by the study team and OSEP (see http://www.cgu.edu/sefnasurveys for a copy of the survey). Data collection occurred during Spring 2009.

Task 4: Teacher education programs. An online Remark™ survey was sent to SE teacher-training program coordinators included in the final sampling frame during Spring 2010. Questions included in the survey were adapted from the Task 1 doctoral program survey, as well as emerging questions of interest from the study team and OSEP (see http://www.cgu.edu/sefnasurveys for a copy of the

survey). Each coordinator was given a financial incentive to assist with the gathering of information needed to conduct this survey.

Task 5: OSEP leadership preparation projects. Beginning on October 21, 2008, and continuing through October 30, 2008, each director was contacted by e-mail. The message included four components: a link to the online survey, an individualized worksheet, a PDF version of the survey, and directions about how to complete the survey.

Information provided by OSEP indicated that these 30 special education doctoral preparation projects had a total of 508 ID numbers. Therefore, we initially believed that 508 individuals were supported through these 30 federal projects. However, one student was assigned two different ID numbers and was entered twice on the report. This occurred because that student took a leave of absence and on returning to active status during a subsequent academic term was assigned another ID number. Therefore, 507 students is the accurate number of special education doctoral students funded by OSEP on projects initiated during these two fiscal years.

Data from all 507 doctoral students were used in the analysis. Information about graduation status for the 175 students who had graduated by the time the final report was submitted was taken from the Final Student Data for the remaining 332 were obtained through the online survey.

For each project, we developed an individual worksheet, which contained the specific ID number for each student reported on the Final Student Report as not completing the doctoral program. It also indicated the amount of funding awarded to each of these students. We included the amount of funding because we felt it might be useful in identifying target students in cases where the ID numbers had been destroyed to ensure confidentiality once the project had concluded. Space was provided for the project director to provide additional information about the student's present status. These worksheets provided a means for the directors to organize students' information and assisted them on the completion of the questions on the online survey.

The online survey requested information about the current status of every OSEP-funded student, identified only through ID numbers, who had been reported as not having graduated by the time the respective project's Final Student Report was submitted (see http://www.cgu.edu/sefnasurveys for a copy of the survey).

Task 6: OSEP leadership projects active in Spring 2009. Beginning in January and continuing through April 2009, each director of the 85 active, special education doctoral preparation projects was contacted by e-mail. The message included three components: a link to the online survey, a PDF version of the survey, and directions on how to complete the survey. Survey questions (see http://www.cgu.edu/sefnasurveys for a copy of the survey) focused on five basic topics: (a) the annual length of time that students were provided funding, (b) the typical or average stipend (i.e., living allowance) received by each student, (c) the typical or average amount of tuition support received by each student, (d) whether the support covered all costs of tuition, and (e) additional costs covered by OSEP funding (e.g., health insurance, book allowances, travel, and research support).

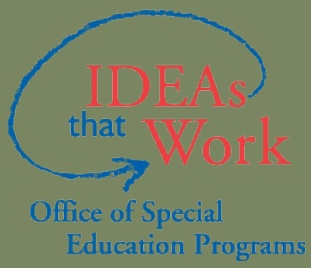
Task 7: SE positions posted in The Chronicle of Higher Education (June 2010–October 2010). An online Qualtrics™ survey was sent to position coordinators identified in the advertisements. Questions

included in the survey were adapted from the Task 1 doctoral program survey, the Task 2 SE teacher preparation program survey, as well as emerging questions of interest from the study team and OSEP (see http://www.cgu.edu/sefnasurveys for a copy of the survey). Each coordinator was given a financial incentive to assist with the gathering of information needed to conduct this survey.

Analysis Procedures

A number of analysis techniques were employed to analyze data across tasks. As a first step in all analyses, descriptive statistics were used to assess measures of central tendency (mean, mode) and variability (range, standard deviation). This also allowed for the identification of outlying variables on key outcomes.

Analyses of inferential statistics were also conducted. To estimate whether the means of key outcome variables for graduates in academic positions and those in non-academic positions were statistically different from each other, a t-test was conducted. To predict the probability of pursuing a faculty career, a logistic regression was employed. In this instance, the dependent or response variable was dichotomous (i.e., graduate pursued a faculty position/graduate did not pursue a faculty position). In both sets of analyses, alpha levels were set at $p<.001$, $p<.01$, and $p<.05$ and results interpreted accordingly.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