
Needs Assessment Study of Selected Applied Doctoral Programs in Minnesota

FINAL REPORT

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Minnesota
STATE COLLEGES
& UNIVERSITIES

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APPENDIX A

**1.0 NEEDS ASSESSMENT FOR
APPLIED DOCTORATES IN
MINNESOTA**

1.0 NEEDS ASSESSMENT FOR APPLIED DOCTORATES IN MINNESOTA

1.1 Overview of Project

A central mission of public higher education is to provide affordable quality education to all. Recognizing this, the 2005 Minnesota State Legislature authorized universities of the Minnesota State Colleges and Universities (MnSCU) system to offer applied doctorates in a limited number of areas, including: nursing, psychology, and education. The Chancellor's Office of the MnSCU system has the responsibility to decide which programs will be offered and where. The Chancellor's Office contracted with MGT of America, Inc., to assess the demand for the Doctor of Nursing Practice (DNP), Doctor of Psychology (Psy.D.), and Doctor of Education (Ed.D.). To gauge the demand for the degrees, MGT was asked to:

- Review the current market for each degree.
- Examine the projected occupational growth in relevant areas.
- Interview academic officers from the MnSCU system.
- Interview faculty and graduate directors from nursing schools, psychology departments, and education departments.
- Interview employers and professional associations in each of these fields.

Through the above methods, MGT will obtain both qualitative input from various stake holders and quantitative data from occupation projections and enrollment and completion trends. Together these methods will yield results that can be confirmed from multiple angles.

The next section provides a brief overview of the MnSCU system and the Minnesota economy. Chapter 2.0 summarizes the results of interviews with academic officers in the MnSCU system. Chapters 3.0, 4.0, and 5.0 examine the DNP, Psy.D., and Ed.D. degrees, respectively. Chapter 6.0 concludes by summarizing the findings and providing estimates of student interest in each of the programs.

1.2 Minnesota's Economy and Public Higher Education System

As of 2005, Minnesota's population stood at 5.1 million. The state has experienced a 12.4 percent increase in population since 1990. Its economy is made up a variety of industries. Approximately 14 percent of the workforce is employed in the health care and social assistance sector. Another 13 percent is employed in manufacturing, and 12 percent is employed in the retail trade sector. The total labor force of 2.9 million people is supported in part by Minnesota's public higher education sector, which is made up of

the University of Minnesota's four campuses and the 32 colleges and universities that fall under the auspices of the Minnesota State Colleges and Universities system.

In 2005, the 32 MnSCU institutions enrolled just over 170,000 students, and in 2004-05, they graduated approximately 8,100 bachelor's degree students and 2,800 master's students.¹ Many of the students remain in Minnesota after graduating and will go on to pursue doctorates. The only public university currently awarding doctorates is the University of Minnesota; therefore, people living outside of the Twin Cities and Duluth area have to commute considerable distances to attend an in-state public institution. In 1998, the State Legislature began exploring the idea of offering doctorates through the six universities in the MnSCU system. As noted above, these efforts resulted in legislation in 2005 that authorized MnSCU to offer applied doctorates.

Applied doctorates are specifically aimed at enhancing the quality of the workforce. Unlike the more theoretically based Ph.D., applied doctorates train students in the actual practice of their profession. In contrast, the Ph.D. has as its focus the creation of new knowledge. The next three chapters examine three applied doctorates that are under consideration by MnSCU as potential offerings: Doctor of Nursing Practice (DNP), Doctor of Psychology (Psy.D.), and Doctor of Education (Ed.D.).

¹ The enrollment numbers are taken from MnSCU's "Amazing Facts" report. The completer numbers are taken from IPEDS 2003-04 completer files. Leech Lake Tribal College is also included in the totals.

**2.0 ACADEMIC OFFICER
PERSPECTIVES ON APPLIED
DOCTORATE PROGRAMS**

2.0 ACADEMIC OFFICER PERSPECTIVES ON APPLIED DOCTORATE PROGRAMS

2.1 General Thoughts on Applied Doctoral Degrees

MGT interviewed six members of the senior administration at the six universities of the Minnesota State Colleges and Universities (MnSCU) system. These respondents were unanimously supportive of the applied doctoral degrees under consideration, the Doctor of Nursing Practice (DNP), the Doctor of Psychology (Psy.D.), and the Doctor of Education (Ed.D.). As one respondent pointed out, the system has its roots in applied education. Many universities began as teachers colleges. Another respondent expressed that it was normal, and even expected, for a system like MnSCU to offer doctorates. Therefore, the expansion into doctoral programs is welcome and long overdue according to some.

The applied doctorate degree options provide additional post-baccalaureate education opportunities for Minnesotans. And as one respondent stressed—in an economy that increasingly values knowledge workers—these are certainly important programs. When asked what contribution doctoral students would make to the university community, respondents identified a variety of points:

- The presence of doctoral students at a university raises the standards of scholarship for faculty.
- Doctoral students add prestige to a university.
- Doctoral students add to the teaching capacity of the university.
- Doctoral students excite the faculty and that has positive residual effects on the rest of the university community.

2.2 Anticipated Demand from Employers And Students

All respondents indicated that there was support from the employer community for all three doctorates. Specifically, they noted support from school administrators and the health care community. All respondents also indicated that the system had good connections to employers who support the applied nature of the degrees.

Respondents also were unanimous that student interest in the programs would be strong. Two surveys have already documented the interest in both the Ed.D. and DNP programs. Respondents also agreed that the interest would be sustained after the initial cohort of potential students has been served.

2.3 Possible Barriers to Establishing an Applied Doctoral Program

The respondents collectively have a wealth of experience in the areas of academic affairs and university administration; therefore, they were asked to identify possible barriers to implementing a new doctoral degree program. Four concerns were raised regarding the three programs:

- If the Ed.D. program is expected to be self-funded, then what will be done in the event that a large number of MnSCU employees enroll in the program and claim tuition remission benefits? This was the most commonly raised concern, identified by three respondents.
- Two respondents indicated that financing the program and the cost of the program were of concern.
- Another respondent expressed concern over finding qualified faculty to teach in the program.
- One respondent noted that designing a doctoral program using a consortium model requires the blending of philosophies, which can pose challenges initially.

**3.0 NEEDS ASSESSMENT FOR
THE DOCTOR OF NURSING
PRACTICE (DNP)**

3.0 NEEDS ASSESSMENT FOR THE DOCTOR OF NURSING PRACTICE (DNP)

3.1 Overview of the Doctor of Nursing Practice

As of July 2006, there were 21 Doctor of Nursing Practice (DNP) programs at universities across the United States. These programs are accredited by the Commission on Collegiate Nursing Education (CCNE), which also accredits all nursing baccalaureate and master's programs. Another 190 DNP programs are currently being developed, according to the American Association of Colleges of Nursing (AACN).

The DNP is a relatively new degree. In 2003, the nursing professional and educational community began exploring the idea of establishing a DNP. The AACN Task Force on the Practice Doctorate collaborated with the National Organization of Nurse Practitioner Faculty (NONPF) to discuss the degree. Further, in 2005, the DNP Roadmap Taskforce of the AACN convened five regional forums to obtain input from the educational and professional community about a document it had developed titled *The Essentials of the Doctoral Education for Advanced Practice of Nursing*. This document outlines the eight essential principles that a DNP program should encompass:

- Scientific Underpinnings for Practice
- Organizational and Systems Leadership for Quality Improvement and Systems Thinking
- Clinical Scholarship and Analytical Methods for Evidence-Based Practice
- Information Systems/Technology and Patient Care Technology for the Improvement and Transformation of Health Care
- Health Care Policy for Advocacy in Health Care
- Interprofessional Collaboration for Improving Patient and Population Health Outcomes
- Clinical Prevention and Population Health for Improving the Nation's Health
- Advanced Nursing Practice

The 21 currently accredited programs vary in their focus on the above principles. For instance, Columbia University's DNP program includes a 23 credit clinical focused curriculum and a residency, whereas Oakland University's DNP does not require a clinical core for nurses who enter the program with a master's in a clinical nursing field.

The DNP is distinct from the DNS and Ph.D. in that the latter two emphasize research, while the DNP degree is more practice-oriented. Also, the CCNE does not accredit the Doctor of Nursing Science degree (DNS, DNSc, DSN) or the Ph.D. Applied doctorates like the DNP are intended to help professionals further their knowledge of practicing their discipline. In contrast, Ph.D. and DNSc programs emphasize basic research. The DNP emphasizes research skills, too, insofar as they relate to the practice of medicine. Additionally, four schools offer a Doctor of Nursing (ND) degree, which is also intended to be a practice doctorate. The AACN has recommended that the ND title be phased out

and that the DNP serve as the degree associated with practice-focused doctoral nursing education.¹

There is some debate within the community over the DNP and whether it should replace the master's as the education pathway for advanced practice nurses. Some nurses are displeased with the idea that they may have to seek additional training to stay certified.² However, the AACN has made clear that "nurses with master's degrees will continue to practice in their current capacities."³ Fulton and Lyon (2005) outline the issues and the debate well. They note the debate has many dimensions. There is debate over the focus of the degree, the impact of the degree on students and employers, and the regulatory issues associated with state certification rules.⁴

There is also debate between the physician community and the nursing community. In June 2006, the American Medical Association (AMA) passed a resolution at its annual meeting pertaining to the DNP. Titled "Need to Expose and Counter Nurse Doctoral Programs (NDP) Misrepresentation," the resolution specifically resolves "That our AMA work with all appropriate entities to ensure that all persons engaged in patient contact be clearly identified either verbally, or by name badge or similar identifier with regard to their professional licensure in order that patients are aware of the professional educational background of that person." It further states, "our AMA [will] work jointly with state attorneys general to identify and prosecute those individuals who misrepresent themselves as physicians to their patients." Not all in the physician community are resistant to the idea of a DNP. In a recent issue of *Academic Medicine*, Michael Whitcomb expresses his support for the nurses' movement toward the DNP. He notes that because the supply of physicians is not expected to keep pace with demand, it is necessary to look to nurses to be involved in primary care medicine as well.⁵

In response to the AMA resolution, the American Association of Colleges of Nursing issued a set of talking points, which may be summarized as follows:

- They agree that action should be taken against individuals who misrepresent themselves as physicians, and they note that in a 2002 white paper the AACN already recommended that a clinician's credentials be identified both verbally and on name badges.

¹AACN Position Statement on the Practice Doctorate in Nursing, October 2004, accessed July 2006: <http://www.aacn.nche.edu/DNP/DNPPositionStatement.htm>

The Essentials of the Doctoral Education for Advanced Practice of Nursing, accessed July 2006: <http://www.aacn.nche.edu/DNP/pdf/Essentials.pdf>, July 2006.

²"Medscape General Medicine Letters-"Readers and Authors Respond to 'Introducing the Doctor of Nursing Practice'," September 8th, 2006. Accessed October, 2006: <http://www.medscape.com/viewarticle/543596>.

³Frequently Asked Question #16, accessed October, 2006: <http://www.aacn.nche.edu/DNP/DNPFAQ.htm>.

⁴Fulton, J., Lyon, B., (September 30, 2005) "The Need for Some Sense Making: Doctor of Nursing Practice" Online Journal of Issues in Nursing. Vol. 10, No. 3, Manuscript 3. Accessed August 2006: www.nursingworld.org/ojin/topic28/tpc28_3.htm.

⁵Whitcomb, Michael E. "The Shortage of Physicians and the Future Role of Nurses," *Academic Medicine*, Vol 81. No. 9, September 2006.

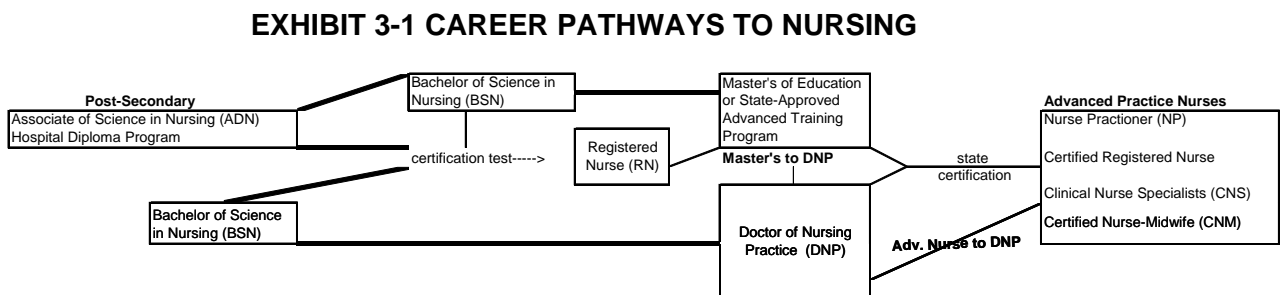
- They point out that applied doctorates exist in other health professions, such as pharmacology, occupational therapy, physical therapy, and audiology.

Amidst these debates within and between the professional communities, DNP programs continue to be established. The remainder of this chapter examines the potential for establishing a DNP degree program in the Minnesota State Colleges and Universities (MnSCU) system. The next section examines the pipeline of prospective students. The third section assesses the job market for nursing, and the fourth section summarizes our findings from interviews with employers and professional associations. The fifth section provides a summary of our interviews with members of the academic community. The sixth section offers conclusions.

3.2 Pipeline of Prospective Students

Students entering DNP programs include those who have completed a bachelor of science in nursing (BSN) or a master's in nursing. Additionally, nurses with an advanced certification are eligible to enter a DNP program. However, the AACN and many others in the nursing community expect that one day the master's degree would prepare generalists, while the DNP would prepare specialists.

Exhibit 3-1 illustrates the current pathways to becoming a registered nurse or an advanced practice nurse. The DNP appears on the diagram with many connections because both mid-career professionals and traditional students are possible candidates for the program. As the DNP is a relatively new degree, its place on the pipeline may shift as the nursing community continues to discuss the degree and state licensure policies.



3.2.1 Current Inventory of Nursing Programs in Minnesota

Among the 21 CCNE accredited DNP programs, two are located in or near Minnesota. One is the DNP program at the University of Minnesota, which will begin accepting students in January of 2007. The other is at Tri-College University in North Dakota. The University of Minnesota also offers a Ph.D. in nursing.

In addition to the University of Minnesota, there are 15 other schools with nursing programs (bachelor's degree or higher) accredited by the Commission on Collegiate Nursing Education in Minnesota (**Exhibit 3-2**). Six of these programs are also accredited by the National League for Nursing Accrediting Commission (NLNAC). Several

community colleges and colleges (not listed in the table) offer an associate degree in nursing programs that are accredited by the NLNAC.

**EXHIBIT 3-2
NURSING PROGRAMS IN MINNESOTA, 2006**

SCHOOLS WITH NURSING PROGRAMS	ACCREDITED BY CCNE	ACCREDITED BY NLNAC
Augsburg College	yes	no
Bethel University	yes	no
College of Saint Benedict	yes	no
College of Saint Catherine	yes	yes
College of Saint Scholastica	yes	no
Concordia College-Moorhead	yes	yes
Gustavus Adolphus College	yes	yes
Bemidji State University	yes	yes
Metropolitan State University	yes	no
Minnesota State University-Mankato	yes	yes
Minnesota State University-Moorhead	yes	yes
St. Cloud State University	yes	no
Winona State University	yes	yes
Saint John's University	yes	no
Saint Olaf College	yes	yes
University of Minnesota-Twin Cities	yes (DNP)*	no

Source: 2006 Higher Education Directory.

Note: *In January 2007, the University of Minnesota will begin serving its first cohort of DNP students.

The Mayo School of Health Sciences and Saint Mary's University of Minnesota offer a Nurse Anesthetist program, accredited by the American Association of Nurse Anesthetists (AANA). The Mayo School of Health Sciences also offers a Nurse Practitioner Residency program to students enrolled in any of seven affiliated master's programs, five of which are located in Minnesota. These affiliated Nurse Practitioner education programs, accredited by NLNAC, are offered by the following institutions:

- College of Saint Catherine (Minnesota)
- Minnesota State University at Mankato (Minnesota)
- Metropolitan State University (Minnesota)
- University of Minnesota (Minnesota)
- University of Wisconsin – Eau Claire (Wisconsin)
- Viterbo University (Wisconsin)
- Winona State University (Minnesota)

3.2.2 Graduate Completion Trends in Minnesota Nursing Programs

Twelve of the above universities located in Minnesota also report completion data on master's and doctoral graduates to the U.S. Department of Education through the Integrated Postsecondary Education Data System (IPEDS). In 2005, these universities awarded a total of 275 master's in nursing degrees and the University of Minnesota awarded 11 doctorates in nursing (**Exhibit 3-3**). In North Dakota, South Dakota, Iowa,

and Wisconsin combined the totals were 451 master's and 22 doctorates. These doctorates were either Ph.D.s or doctorates of nursing science. The total does not include the DNP since none of the schools listed currently awards that degree.

**EXHIBIT 3-3
MASTER'S AND DOCTORATE GRADUATES IN NURSING FROM SELECTED
COLLEGES AND UNIVERSITIES IN MINNESOTA, 2005**

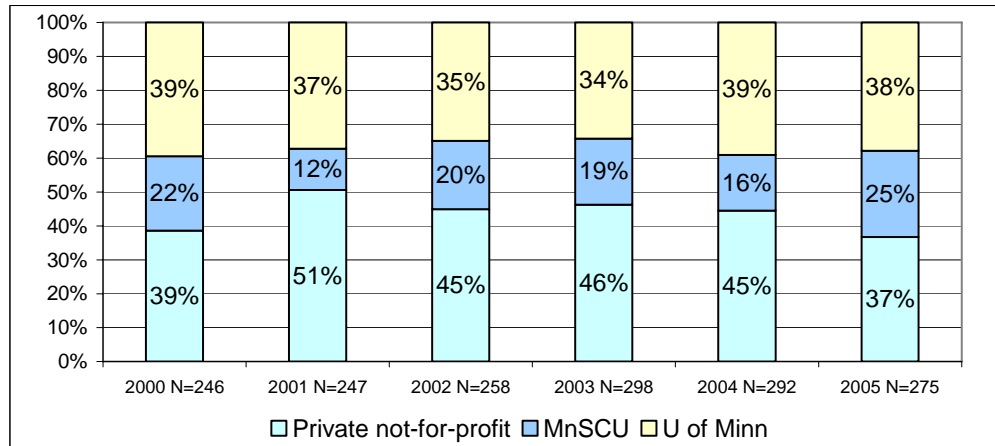
COLLEGE OR UNIVERSITY	MASTER'S	Ph.D.
Augsburg College	3	-
Minnesota State University-Moorhead	6	-
Bethel University	9	-
Metropolitan State University	13	-
College of Saint Catherine	14	-
Minnesota State University-Mankato	15	-
The College of Saint Scholastica	20	-
Saint Mary's University of Minnesota	25	-
Mayo School of Health Related Sciences	30	-
Winona State University	36	-
University of Minnesota-Twin Cities	104	11
Total	275	11

Source: IPEDS 2005 completion file.

Looking more closely at master's degrees, the 275 master's degrees awarded in 2005 represent an 11 percent increase from the 247 awarded in 2001. Between 2001 and 2005, MnSCU's share of the state total remained relatively stable, fluctuating between 34 percent and 39 percent (**Exhibit 3-4**). In 2000 and 2003, the three MnSCU institutions with master's graduates in nursing were Winona State University, Minnesota State University-Mankato, and Metropolitan State University. In 2005, these same three, as well as Minnesota State University-Moorhead, were the MnSCU institutions with nursing master's graduates. The University of Minnesota's share fluctuated between 37 percent (2005) and 51 percent (2001). The remaining master's graduates came from the private colleges and universities.

Together MnSCU and The University of Minnesota account for approximately 49 percent to 63 percent of the state's total nursing master's graduates each year. This is similar to the levels in Iowa and North Dakota, where more than half of these graduates are from public universities. In South Dakota, the percentage fluctuates from 26 percent to 49 percent, and in Wisconsin, between 47 percent and 70 percent.

EXHIBIT 3-4
PORTION OF MASTER'S DEGREES IN NURSING AWARDED BY MINNESOTA
PRIVATE AND PUBLIC UNIVERSITIES, 2000-05



Source: IPEDS Completion file 2000-05.

Notes: MnSCU= Minnesota State Colleges and Universities System; U of Minn=University of Minnesota.

3.3 Job Market for Program Graduates

According to U.S. Bureau of Labor Statistics, the number of nurses is projected to grow by 29 percent between 2004 and 2014 in Minnesota. This is significantly higher than the overall 13 percent projected growth rate for all occupations in Minnesota. Further, the U.S. Department of Health and Human Services projects that the vacancy rate for nurses will increase from 10 percent in 2006 to 36 percent in 2020.⁶ Although not all nursing positions require a DNP, it is expected that the portion that do will also experience similar growth in employment demand.

The nursing shortage is likely being exacerbated by the inability of nursing schools to find qualified teachers. According to an AACN survey of nursing schools, three out of four schools indicate that a primary reason they turn away qualified applicants is that they have an insufficient number of faculty to keep up with the demand.⁷ Nurses with a DNP would be qualified to teach at most nursing schools. Together these trends indicate that job openings for graduates with a DNP will be widely available over the next decade.

⁶ MacDonald, G. Jeffrey. "Nursing schools short on teachers", USA Today, October 3, 2006. accessed October 2006: http://www.usatoday.com/news/health/2006-10-03-nursing-schools_x.htm

⁷ MacDonald, G. Jeffrey. "Nursing schools short on teachers", USA Today, October 3, 2006. accessed October 2006: http://www.usatoday.com/news/health/2006-10-03-nursing-schools_x.htm

LaRocco, Susan A. "Who Will Teach the Nurses", Academe, June 2006. accessed September 2006: <http://www.aaup.org/publications/Academe/2006/06mj/06mjlaro.htm>

3.4 Perceptions of the Professional Community

3.4.1 Current and Anticipated Employer Demand for Employees with a DNP

MGT interviewed members of the health care sector to assess their interest in hiring nurses with a DNP. Both indicated that in the next three years they would have four to ten job openings for which a DNP would be preferred. The types of positions included clinical nurse specialists, nurse administrators, nurse practitioners, and nurse managers. Over the long run both agreed that the DNP would be the degree required for positions such as clinical nurse specialists. They took care to note that those already certified for advance practice nursing would not be expected to go back to school, but that when they did retire, their position would likely be filled by someone with a DNP. Further, the DNP would not replace the generalist nurse positions such as RN or LPN. One nurse compared it to the trend in Pharmacy, where previously the highest degree required was a master's, but now it is a Pharm.D.

The general intent is to elevate the quality of a profession by giving the next generation of nurses the opportunity to obtain applied doctoral education, which provides more in-depth training in the practice of nursing and evidence-based medicine than a master's program.

3.4.2 Professional Associations' Assessment of Student Interest

As described earlier, the DNP is intended to prepare nurses for advanced patient care, evidence-based practice, and leadership. The DNP degree is expected to attract both students who are already certified nurses and, to a lesser extent, those just graduating with a bachelor's in nursing. In order to gauge the nursing community's interest in the DNP program, MGT interviewed four representatives from three different professional nursing associations: the American Association of Colleges of Nursing (AACN), the National Organization of Nurse Practitioner Faculties (NONPF), and the Minnesota Nurses Association (MNA). The Minnesota Nurses Association has taken no position on the DNP, but a representative agreed to share with us the opinions of nurses to whom she had spoken.⁸

Overall, respondents from these associations were excited by the national movement toward the DNP, but they noted that some nurses were not supportive of the movement. More specifically, common observations related to nurses' potential interest in the DNP included the following:

- Representatives from all three professional associations indicated that their constituencies were generally interested in the DNP. One respondent teaches at a nursing school with a DNP program, and noted that they attract more applicants than they can handle. Sometimes they turn away twice as many applicants as they accept.

⁸ Also according to the respondent the American Nurses Association's Board neither opposes nor endorses the DNP.

- Two respondents, however, also noted the presence of a vocal group of nurses who continue to oppose the DNP. By one respondent's account, the number expressing these concerns has diminished over the last several years.
 - These nurses are worried that they will have to go back to school to obtain the DNP in order to remain certified as advanced practice nurses.
 - Nurses have also raised concerns over the AACN's recommendation in October 2004 that preparation for advanced practice nursing be transitioned from a master's degree to the DNP by 2015.⁹
 - Some nurses are also not convinced that the DNP would lead to jobs with a higher salary or that their responsibilities would change.

3.4.3 Professional Associations' Assessment of Potential Barriers to Participation

Three of the respondents from the professional associations were also asked to identify possible barriers that might prevent or discourage interested professionals from enrolling in the program. There was agreement that the following barriers were significant:

- Scheduling of courses during the day
- Inflexible course delivery methods (need for more alternatives to classroom-based courses)
- To a lesser extent, the cost of the program

When asked about mode of course delivery potential students would prefer, all respondents noted that students would likely desire a mix of on-line classes and traditional classes. One respondent added that though nurses liked the flexibility of on-line classes, many were nervous about using a new technology.

3.4.4 Professional Association and Employer Ratings of Important DNP Skills and Competencies

Three of the professional association respondents and two nurse administrators at two Minnesota hospitals were given a list of skills and competencies related to the DNP. They consistently rated the following skills as very important:

- Understanding of organizational development and productivity
- Information management for improving health care systems

⁹ accessed June 2006: <http://www.aacn.nche.edu/DNP/DNPFAQ.htm>

- Patient diagnosis
- Proficiency in nursing skills
- Skills in applied research
- Proficiency in communication skills

In addition to the above, respondents from the professional associations consistently noted that analysis of policy and understanding of legal/ethical issues were very important skills for a DNP. Similarly, nurse administrators noted that skills in the use of technology and understanding of quality processes were very important for jobs that might require a DNP.

3.5 Perceptions of the Academic Community

3.5.1 Anticipated Demand

There was agreement among the nursing faculty about the anticipated demand for the DNP. All agreed that there was a demand for the DNP among employers and aspiring nursing students. One respondent noted support from many clinics that already partnered with the master's of nursing program. Another respondent cited the veterans' hospital's support for the program.

Respondents also noted that many nurses had already expressed interest to them about attending a DNP program in Minnesota. One respondent recalled meeting with nurse practitioners, who expressed support for the program even though they had no plans for pursuing the degree themselves.

All respondents also pointed out the shortage of faculty at nursing schools. In particular, one respondent noted that the number of vacancies for nursing faculty positions had risen from 30 to 98 between 2005 and 2006 in Minnesota. This is similar to the nationwide trend.¹⁰ They all noted that DNP-trained individuals could easily fill these positions.

3.5.2 Instruction and Potential Barriers

There was general agreement that the mode of instruction should be a mix of on-line and in-person instruction. All respondents are part of the consortia of MnSCU universities that have submitted an application to create a DNP program; therefore, they have given considerable thought to the potential barriers to student participation. Recognizing that scheduling and location can be barriers, especially for currently practicing nurses, they have designed the program accordingly. Stipends are also being offered to mitigate the instances when cost is a barrier to participation.

¹⁰ MacDonald, G. Jeffrey. "Nursing schools short on teachers", USA Today, October 3, 2006. accessed October 2006: http://www.usatoday.com/news/health/2006-10-03-nursing-schools_x.htm

3.6 Conclusions

Our review of occupation projections and our interviews with employers, members of professional associations, and nursing faculty provide both anecdotal and quantitative evidence that there is a demand for applied doctoral trained nurses in Minnesota. Additionally, the nursing faculty respondents are confident that there is a pent-up demand for the program. There are only two other DNP programs in the region (one in Minnesota and the other in North Dakota) to meet this demand locally. In terms of the skills to be taught via a DNP program, our interviews with employers and members of professional associations suggest that the principles outlined by the AACN are generally accepted.

Despite this general optimism, there is an on-going debate in the health care community over the DNP both in Minnesota and nationwide. These debates do not appear to have had an effect on the enrollment at current DNP programs across the country. As one respondent pointed out, the debate in the nursing community on this topic is much less heated than it was six years ago and will probably continue to diminish over time.

**4.0 NEEDS ASSESSMENT FOR
THE DOCTOR OF
PSYCHOLOGY (Psy.D.)**

4.0 NEEDS ASSESSMENT FOR THE DOCTOR OF PSYCHOLOGY

4.1 Overview of the Doctor of Psychology

As of August 2006, there were 231 clinical doctoral programs in psychology across the United States and Canada accredited by the American Psychological Association (APA). Fifty-eight of these accredited programs were Doctor of Psychology (Psy.D.) programs and the remainder were research doctoral (Ph.D.) programs. The Psy.D. is distinct from a Ph.D. in that the Psy.D. emphasizes the mastery of practice, whereas the Ph.D. focuses on basic research and the creation of new knowledge and discoveries. Other specialty areas for the Psy.D. include school psychology, counseling psychology, industrial organization psychology, and professional-scientific psychology. However, the most accredited programs are in clinical psychology.

The structure of the Ph.D. in psychology programs dates back to a 1949 psychology conference in Boulder, Colorado, that focused on training. A consensus emerged from the conference that the Ph.D. would be the required degree for psychologists and that it would have a balanced focus on research competencies and clinical practice. By the late 1960s, many in the community were arguing that a more professional training model was needed. In 1973, the Psy.D. was introduced at a conference in Vail, Colorado. Members of the profession argued that the field had matured enough to justify the creation of a professional degree like that in law or medicine. It was also made clear that the Psy.D. was not intended to replace the Ph.D.¹ In many ways, the debate was very similar to the one now raging over the Doctor of Nursing Practice (DNP) in the nursing community.

The remainder of this chapter examines in more detail the potential demand for a Psy.D. program in Minnesota. The next section examines the pipeline of prospective students for such a program. The third section assesses the job market for psychologists, and the fourth section summarizes our findings from interviews with employers and professional associations. The fifth section provides a summary of our interviews with members of the academic community. The final section offers conclusions.

4.2 Pipeline of Prospective Students

Many graduates of Psy.D. programs go on to take professional licensure exams. Many take the Examination for Professional Practice in Psychology (EPPP), and go on to open a private practice. Others specializing in Forensic Psychology take an exam sponsored by the American Board of Professional Psychology (ABPP) and American Board of Forensic Psychology (ABFP). Those specializing in Industrial-Organization typically do not obtain a professional licensure, but work in corporate human resource departments.

States have varying rules for who can qualify to take the EPPP. Many states require candidates for the exam to prove that their course of study was equivalent to an APA

¹ "Appreciating the PsyD: The Facts" Eye on Psi Chi, Fall 2002, Volume 7, No. 1, John C. Norcross and Patricia H. Castle. accessed August , 2006: http://www.psichi.org/pubs/articles/article_171.asp,

accredited program. Therefore, graduating from an accredited program eliminates the need to provide such evidence. Florida, Oklahoma, and Utah will only allow graduates of APA programs to sit for the EPPP.

Until recently, Minnesota required all candidates for the exam to submit detailed documentation of their course of study. But in June 2006, the Minnesota Board of Psychology passed rule 7200.1550, which eliminates the requirement to provide such documentation for those who obtain their degree from an APA accredited program.²

4.2.1 Current Inventory of Accredited Psychology Programs in Minnesota

As shown in **Exhibit 4-1**, there are currently two APA accredited Psy.D. programs in Minnesota—one in Counseling Psychology at the University of St. Thomas and the other in Clinical Psychology at Argosy University. The Argosy Corporation operates 15 Psy.D. programs in nine states under the auspices of “Argosy University.” Argosy University was formerly known as the American Schools of Professional Psychology (ASPP).

**EXHIBIT 4-1
SELECTED PSYCHOLOGY PROGRAMS IN MINNESOTA**

Psy.D. PROGRAMS	ACCREDITED BY APA	ASPPB DESIGNATED DOCTORAL PROGRAM
Argosy University, Twin Cities Campus	yes	yes
University of St. Thomas	yes	yes
Wisconsin School of Professional Psychology	no	yes

Source: American Psychological Association, APA Association of State and Provincial Psychology Boards (ASPPB), and National Register of Health Service Providers.

There is also a Psy.D. program in clinical psychology at the Wisconsin School of Professional Psychology. While this program is not accredited by the APA, it is on the list of “designated doctoral programs” published jointly by the Association of State and Provincial Psychology Boards (ASPPB) and National Register of Health Service Providers. Graduates of designated doctoral programs typically meet the criteria needed to qualify for the certification exam.

4.2.2 Graduate Completion Trends in Minnesota Psychology Programs

Two of the three accredited or “designated” Psy.D. programs located in or in proximity to Minnesota require only a bachelor’s degree for admission. The other, at the University of St. Thomas, requires a master’s degree. Therefore, to get a sense for the number of potential applicants for a Psy.D. program, we examined the number of bachelor’s and master’s degree graduates from schools that report completion data to the U.S. Department of Education through the Integrated Postsecondary Education Data System (IPEDS).

² APA Accredited Program Rule June 2006. accessed August, 2006:
<http://www.psychologyboard.state.mn.us/license.asp?docid=140>

As shown in **Exhibit 4-2**, a total of 331 students graduated with a master's degree. This represents a potential pool of applicants to a Psy.D. program. However it does not include the those with a masters degree already working in Minnesota. In 2005, 111 doctoral degrees (either a Psy.D. or Ph.D.) were awarded by Minnesota schools reporting to IPEDS.

**EXHIBIT 4-2
2005 MASTERS AND DOCTORATE GRADUATES IN PSYCHOLOGY FROM
SELECTED COLLEGES AND UNIVERSITIES IN MINNESOTA³**

COLLEGE OR UNIVERSITY	MASTER'S	DOCTORATE (Psy.D. or Ph.D.)
Adler Graduate School	36	-
Argosy University-Twin Cities Campus	19	37
Bethel University	13	-
Metropolitan State University	3	-
Minnesota State University-Mankato	11	-
Minnesota State University-Moorhead	8	-
Saint Cloud State University	51	-
Saint Mary's University of Minnesota	50	-
University of Minnesota-Duluth	10	-
University of Minnesota-Twin Cities	62	46
University of St Thomas	36	23
Walden University	32	42
Total	331	111

Source: IPEDS 2005 completion file.

We also used IPEDS data to compute the share of doctoral graduates obtaining degrees from the University of Minnesota, the only public institution that was authorized to grant doctorates prior to 2005 (**Exhibit 4-3**). In 2000, the University of Minnesota accounted for 40 percent of doctoral graduates; by 2005, its share was 31 percent. In 2005, private for-profit institutions accounted for 53 percent of the doctoral graduates. In comparison, 84 percent of the 82 doctorates awarded in 2005 in neighboring states (North Dakota, South Dakota, Iowa, and Wisconsin) were from public universities. The introduction of doctoral programs to the MnSCU system would likely help the public sector increase its share of doctoral program graduates. This is an important consideration given that public universities typically have more accredited programs, more public accountability, and lower student charges than many of the growing number of providers offering doctoral degrees in psychology predominantly on-line.

³ Walden University is not an accredited or designated school for the Psy.D., but an on-line university that awards doctoral degrees in psychology.

**EXHIBIT 4-3
PORTION OF DOCTORAL DEGREES IN PSYCHOLOGY AWARDED BY
MINNESOTA PRIVATE AND PUBLIC UNIVERSITIES**

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Source: IPEDS Completion file 2000-05.

Notes: Private FP=Private for-profit; Private NFP= Private not-for-profit; U of Minn=University of Minnesota.

4.3 Job Market for Program Graduates

According to the Minnesota Department of Employment and Economic Development, the number of clinical, counseling, and school psychologists is projected to grow by 20 percent between 2004 and 2014 (**Exhibit 5-4**). This is higher than the average of 13 percent for all occupations in Minnesota.

**EXHIBIT 4-4
PROJECTED EMPLOYMENT GROWTH FOR PSYCHOLOGISTS 2004-14**

MINNESOTA	ESTIMATED EMPLOYMENT 2004	PROJECTED EMPLOYMENT 2014	PERCENT CHANGE	CHANGE IN EMPLOYMENT	REPLACEMENT OPENINGS	TOTAL OPENINGS
All Occupations	2,895,658	3,265,658	12.80%	370,000	679,020	1,049,020
Clinical, Counseling, and School Psychologists	3,401	4,074	19.80%	673	740	1,413
Rehabilitation Counselors	2,200	2,598	18.10%	398	500	898
Mental Health Counselors	1,424	1,739	22.10%	315	330	645
Counselors, All Other	1,335	1,533	14.80%	198	250	448
Marriage and Family Therapists	349	432	23.80%	83	80	163
Psychologists, All Other	197	228	15.70%	31	40	71
Industrial-Organizational Psychologists	38	50	31.60%	12	10	22

Source: Minnesota Department of Employment and Economic Development, 2006.

The 20 percent growth rate represents an increase from 3,401 to 4,074 psychologists. The growth rate is expected to be highest (33%) in northeast Minnesota, where the number is expected to increase from 198 to 264. This generally high level of growth indicates that job openings for graduates with doctorates in psychology will be available in the future. Moreover, psychologists also have the option of being self-employed. The U.S. Department of Labor estimates that four out of ten psychologists are self-employed. This is much higher than the average of one in ten persons self-employed in the entire workforce.

Further, a recent article examined the job advertisements, and found that overall there were more advertised positions referencing the Counseling Psychology (CP) doctorate as a preferred degree than referencing the Counselor Education (CE) doctorate degree. However, there was notable variation across the types of positions. A doctorate in Counselor Education was more frequently the preferred degree among faculty position advertisements. In contrast the majority of advertisements for clinical positions requested either a doctorate in CP or CL (Clinical Psychology), or one of the following—a CP, CL, or MSW (Masters in Social Work).⁴

⁴ Bernard, Janine M. "Counselor Education and Counseling Psychology: Where are the Jobs?" Counselor Education and Supervision. September 2006, Vol 46. pp. 68-80.

4.4 Perceptions of the Professional Community

4.4.1 Current and Anticipated Employer Demand for Employees with a Psy.D.

Although a large share of Psy.D. graduates open their own practice, we focused on identifying employers that are likely to employ a large number Psy.D. graduates. We interviewed one individual from the Minnesota Department of Health. Also, multiple attempts were made to contact employers that had listed job advertisements on the Minneapolis Psychological Association (MPA) Web site, but we obtained no responses. This likely occurred because many clinics are small practices owned by the clinician, who may, therefore, face time constraints in responding to interview requests. However the presence of these ads on the website indicates potential demand for psychologists with a Psy.D.

The respondent from the Minnesota Department of Health oversees a department which currently employs ten doctoral level psychologists. The respondent expected to have six job openings in the next three years in clinical evaluation and consultation and treatment. The respondent also noted that forensic psychology was an area in which there was currently a shortage of qualified candidates.

4.4.2 Professional Associations' Assessment of Member Interest

Representatives of the Minnesota Psychological Association and the Minnesota School Psychologists Association were interviewed to assess the interest levels of their membership in pursuing a Psy.D degree. Both representatives indicated their constituencies would be interested in the degree, and estimated that a large share of their membership did not currently have doctorates.

The representative from the Minnesota School Psychologists Association noted that it was important to tailor programs to an individual's current qualifications. For instance, in Minnesota, school psychologists already have an education specialist's or psychological specialist's degree. Generally speaking, a specialist's degree is considered to be about halfway between a master's and a doctoral degree. Therefore those with a specialist's degree would benefit from doctoral programs which began at a level in accordance with their current credentials.

4.4.3 Professional Associations' Assessment of Potential Barriers to Participation

Both representatives also agreed that one of the main barriers to participation would be classes that frequently required a student to be in a specific place at a specific time. They also noted that cost of the program was likely to be a concern. Specifically, one respondent noted that sometimes employers were reluctant to give tuition reimbursement.

When asked about on-line classes, both agreed that the flexibility afforded by on-line classes was important, but a balance of on-line and in-person classes was also important. One respondent observed that while some people got Psy.D. degrees from providers offering the bulk of their classes via on-line instruction, face-to-face instruction was essential to the Psy.D. education because the profession involves considerable social interaction. Therefore, the mode of instruction should not lose the personal contact dimension found in a classroom setting. As will be noted later, this sentiment was repeated in interviews with the academic community.

4.4.4 Professional Association and Employer Ratings of Important Psy.D. Skills and Competencies

At least two of three respondents (one employer and two professional associations) indicated that the following were very important skills and competencies for jobs requiring a Psy.D. degree:

- Understanding of legal/ethical issues.
- Proficiency in clinical skills.
- Understanding of organizational development and productivity.
- Proficiency in communication skills.

Additional skills or competencies identified as being very important by at least one respondent were:

- Proficiency in counseling skills.
- Skills in the use of technology.
- Capacity to conduct statistical analysis.
- Ability to conduct solid psychological assessment for toughest cases.
- Measurement theory.
- Development of psychological assessment instruments.
- Crisis management.
- Cultural competency.

These respondents were also asked if there were some jobs where a Psy.D. would be preferable to a Ph.D. or vice-versa. Two respondents noted that employers were not concerned about the difference. A third respondent noted that there needed to be a balance of both, and that in their personal experience those with a Ph.D. were better trained in statistics.

4.5 Perceptions of the Academic Community

4.5.1 Anticipated Demand

The majority of respondents said that there was a need for Psy.D. graduates. However, two respondents said that the Psy.D. was not as prestigious as the Ph.D. in psychology. Those respondents recognizing a need for Psy.D. graduates identified several areas facing a shortage:

- Three respondents noted a need for school psychologists. However, three of our four interviews with school district superintendents did not echo this sentiment. This may reflect a disjunction between the school level and district level.
- Two respondents noted a need for psychologists who could work with children.
- One respondent noted a need for forensic psychologists. This echoed the sentiment of a respondent from the professional community.

Additionally, three academic respondents noted that there was more of a need for Psy.D. graduates in rural parts of Minnesota. One noted that there already may be too many clinical Psy.D.s in the metro area, a sentiment also iterated by a member of the professional community.

In terms of demand for spots in the program, all respondents noted that some master's students were interested in pursuing a Psy.D. One respondent thought as many as one-third would be interested, while another thought as few as 10 percent would be interested. Respondents also expressed divergent opinions that anywhere from 5 percent to 95 percent of master's students were academically ready for a Psy.D. program.

4.5.2 Instruction and Potential Barriers

All respondents agreed that the universities in the MnSCU system had the necessary employer connections to support an applied doctoral program in psychology. They noted established connections with: the internship placements they already arranged for their master's programs, connections with school districts, the professional community of psychologists, and the on-campus counseling center.

When asked what contribution the Psy.D. would make to the community, respondents had mixed views. Four respondents noted it would increase the prestige of the university, and two said it showed a commitment to research. Another two respondents noted that Psy.D. students would be a valuable addition to the counseling center, but were skeptical about whether they would teach classes. In contrast, another two respondents indicated doctoral students would contribute to the teaching capacity of their university.

Academic respondents were also asked to identify possible barriers to student enrollment. The three mostly common items rated very likely to be a barrier were:

- Scheduling of courses during the day and other times not convenient to students.
- Cost of attendance.
- Programs not being located convenient to work or home.

Another barrier identified by three respondents was lack of resources. These respondents noted that good doctoral programs did not pay for themselves. They perceived a need for additional resources that would support items such as:

- Hiring sufficient number of faculty to teach courses.
- Clinical facilities.
- Recording equipment.

Finally, three areas addressed as strategies to maximize access were:

- Scheduling classes at convenient times.
- Marketing and advertising of the program to potential students.
- Making tuition affordable.
- Providing tuition remission programs for selected students

4.5.2 Other Concerns Expressed by Academic Community

Three respondents expressed some specific concerns. One respondent suggested the MnSCU also re-consider offering Ph.D. programs. The respondent stated that the Ph.D. was a broader degree because it trained students for both clinical and research work. Another respondent expressed opposition to “commuter doctorates” and thought students should be enrolled full-time. Finally, one respondent supported strict admission standards to insure a high-quality program. The respondent suggested resisting the temptation to maximize enrollment and instead considering that the reputation of program depended on the quality of the first few students who complete the program.

4.6 Conclusions

Despite the large number of providers offering Psy.D. degrees predominantly through on-line correspondence, there are only two American Psychological Association (APA) accredited Psy.D. programs in Minnesota. This suggests there is ample room in the market for a state university to offer a Psy.D. program. Further, interviews with members of both professional associations and the academic community indicate there would be students interested in the program.

According to government employment projections, there should be a higher than average growth in the number of clinical, counseling, and school psychologists between

2004 and 2014. Therefore, future Psy.D. graduates will likely face a promising job market. Also, our interviews indicated there would be continued demand for Psy.D. graduates, with specific need in the area of forensic psychology. Some in the academic community also suggested a need for school psychologists. At the same time, some superintendents did not perceive this need.

Some respondents in the academic community expressed concern that additional funding (beyond tuition allocations and other typical sources) would be needed to support a quality Psy.D. program. Nevertheless, the majority of those in both the academic and the professional communities were supportive of MnSCU's initial pursuit of an Psy.D. program.

**5.0 NEEDS ASSESSMENT FOR
THE DOCTOR OF
EDUCATION (Ed.D.)**

5.0 NEEDS ASSESSMENT FOR THE DOCTOR OF EDUCATION

5.1 Overview of the Doctor of Education

The Doctor of Education (Ed.D.) degree dates back to the 1920s in the United States. The two most offered Ed.D. programs across the U.S., according to Peterson's Graduate Planner, are in *educational administration* (365 programs) and in *higher education* (116 programs).¹ The range of specialties also includes areas such as the following:

- Adult education
- Early childhood/elementary education
- Educational administration and supervision
- Language education
- Literacy education
- Mathematics education
- Science education
- Social and philosophical foundations of education
- Social studies education
- Special education
- Vocational education
- Higher education leadership
- Student personnel in higher education

Some of these programs are housed in schools or departments that are accredited by the National Council for Accreditation of Teacher Education (NCATE), but because of the wide range of specialties, accreditation is not necessarily relevant to all areas. For instance, programs in counseling are sometimes also accredited by the Council for Accreditation of Counseling and Related Educational Programs (CACREP), and the National Association of School Psychologists (NASP) accredits programs in school psychology. Education leadership programs focus on administration at pk-12 schools or post-secondary institutions, and there is no accrediting body specific to these programs.

The remainder of this chapter examines in more detail the potential demand for Ed.D. programs in Minnesota. The next section examines the pipeline of prospective students. The third section assesses the job market for graduates with Ed.D. degrees, and the fourth section summarizes our findings from interviews with employers and professional associations. The fifth section provides a summary of our interviews with members of the academic community. The final section offers conclusions.

5.2 Pipeline of Prospective Students

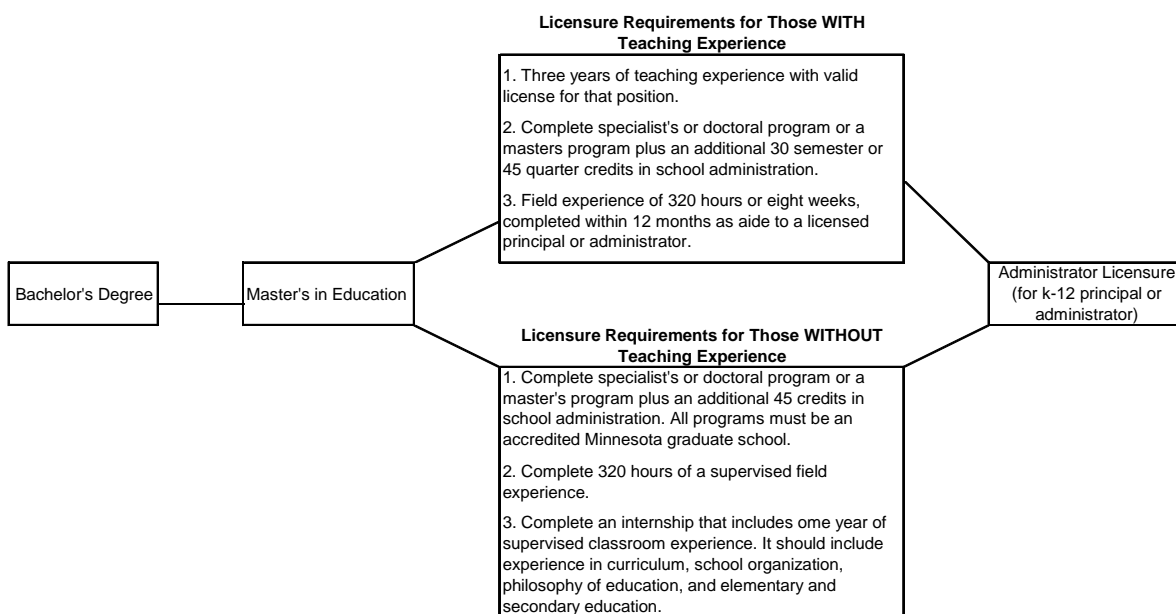
As with most doctoral degrees, students must obtain a bachelor's degree or master's degree prior to entering an Ed.D. program. Most programs require applicants to have a master's, but some will admit students with a bachelor's degree. Many programs also

¹ Peterson's Graduate Planner. accessed October, 2006:
<http://www.petersons.com/GradChannel/code/search.asp?path=gr.fas.grad>

consider teaching experience and relevant work experience in education in their admission decisions.

Generally speaking, Ed.D. graduates are employed in primary and secondary school systems, at colleges and universities, and to a lesser extent in human resources and training departments of private companies. Currently, Minnesota does not require primary and secondary school administrators to obtain an Ed.D or any other doctorate. **Exhibit 5-1** depicts the two pathways to become a licensed primary or secondary school principal in Minnesota.

**EXHIBIT 5-1
PATHWAYS TO BECOMING LICENSED PRINCIPAL IN MINNESOTA, 2006**



Source:
http://education.state.mn.us/mde/Teacher_Support/Educator_Licensing/Types_of_Licenses/Administrative_Licenses/000490.html and
http://education.state.mn.us/mde/Teacher_Support/Educator_Licensing/Types_of_Licenses/Administrative_Licenses/000489.html.

Similarly, Minnesota does not require school psychologists to obtain a doctorate, but it does require an education specialist's (Ed.S.) degree or psychology specialist's (Psy.S.) degree approved by the National Association of School Psychologists (NASP)². A specialist's degree is sometimes described as being halfway between a master's degree and a doctoral degree. However, some school districts do provide salary enhancements for those obtaining an Ed.D.

² Minnesota Rules 8710.6200 Subp. accessed July2006:
http://www.revisor.leg.state.mn.us/bin/getpub.php?pubtype=RULE_CHAP_SEC&year=current§ion=8710.6200.

5.2.1 Current Inventory of Graduate Education Programs in Minnesota

There are eight different universities offering Ed.D. programs in Minnesota (**Exhibit 5-2**). As of October 2006, three of the schools and/or departments were accredited by the National Council for Accreditation of Teacher Education.

**EXHIBIT 5-2
SELECTED SCHOOLS WITH Ed.D PROGRAMS IN MINNESOTA, 2006**

SCHOOLS WITH Ed.D. PROGRAMS	DEPT. OR SCHOOL ACCREDITED BY NCATE
University of Saint Thomas	yes
University of Minnesota-Twin Cities	yes
Hamline University	yes
Argosy University-Twin Cities Campus	-
Saint Mary's University of Minnesota	-
Walden University	-
Bethel University	-
University of Minnesota-Rochester*	-

Source: NCATE= National Council for Accreditation of Teacher Education, 2006. Notes: * Beginning in 2007 University of Minnesota-Rochester will also begin offering an Ed.D. in Education Leadership. It currently has programs in Adult Education and Human Resource Development.

These schools offer a wide range of programs, including, but not limited to:

- Education leadership
- Education administration
- Higher education
- Agricultural education
- Human resource development
- Critical pedagogy
- Organization development

5.2.2 Graduate Completion Trends in Minnesota Education Programs

All of the above Ed.D. programs in Minnesota require students to have obtained a master's degree or its equivalent prior to being admitted to the program. Therefore, to get a sense for the population of students who might consider pursuing an Ed.D., we examined the number of recent graduates of master's in education programs in Minnesota (**Exhibit 5-3**). In 2005, excluding Walden University, a total of 2,992 graduates earned master's degrees from Minnesota institutions reporting to IPEDS (Integrated Postsecondary Education Data System). Walden University is an on-line university with its headquarters in Minnesota. In 2005, it awarded 3,185 master's graduates and 21 doctoral graduates across the nation.

This Minnesota total does not include those with a master's degree already working in Minnesota's education sector or the out-of-state population that might be interested in the proposed Minnesota Ed.D. program.

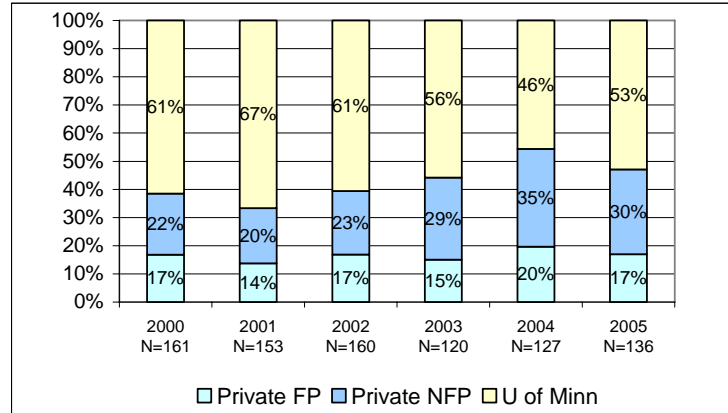
**EXHIBIT 5-3
MASTER'S AND DOCTORAL GRADUATES IN EDUCATION FROM SELECTED
COLLEGES AND UNIVERSITIES IN MINNESOTA, 2005**

COLLEGE OR UNIVERSITY	MASTER'S	DOCTORATE
Argosy University-Twin Cities Campus	1	2
Augsburg College	3	
Bemidji State University	44	
Bethel University	46	
College of Saint Catherine	95	
Concordia University-Saint Paul	49	
Crown College	2	
Hamline University	175	7
Minnesota State University-Mankato	175	
Minnesota State University-Moorhead	45	
Saint Cloud State University	99	
Saint Mary's University of Minnesota	945	21
Southwest Minnesota State University	267	
The College of Saint Scholastica	60	
University of Minnesota-Duluth	38	
University of Minnesota-Twin Cities	533	72
University of Saint Thomas	303	13
Walden University	3,185	21
Winona State University	112	
Total	6,177	136

Source: IPEDS 2005 completion file.

MGT also used IPEDS data to compute the share of doctoral graduates obtaining degrees from the University of Minnesota, the only public institution that was authorized to grant doctoral degrees prior to 2005. In 2000, the University of Minnesota accounted for 61 percent of doctoral graduates across the state; by 2005, its share was 53 percent (**Exhibit 5-4**). These graduates included both Ph.D. graduates and Ed.D. graduates. In 2005, private for-profit institutions accounted for 30 percent of Minnesota doctoral graduates. In comparison, 84 percent of the 299 doctorates awarded in 2005 in neighboring states (North Dakota, South Dakota, Iowa, and Wisconsin) were from public universities. The introduction of the Ed.D. program to the MnSCU system would likely help the public sector increase its share of doctoral program graduates to previous in-state rates or the peer-state average.

EXHIBIT 5-4
PORTION OF DOCTORATE DEGREES IN EDUCATION AWARDED BY MINNESOTA
PRIVATE AND PUBLIC UNIVERSITIES, 2000-2005



Source: IPEDS Completion file 2000-05.

5.3 Job Market for Program Graduates

Graduates with an Ed.D. can work in a variety of settings, as noted earlier. Areas for which specific occupation projections are estimated, however, are limited to education administration and education counseling. According to the Minnesota Department of Employment and Economic Development, the number of postsecondary education administrators is expected to grow by 16.8 percent, with a total of 705 openings in Minnesota between 2004 and 2014 (**Exhibit 5-5**). The number of primary and secondary school administrators is expected to grow by 5.7 percent, with 1,046 openings between 2004 and 2014. The projected openings for school counselors is even greater, with 1,860 slots anticipated over the coming decade.

EXHIBIT 5-5
PROJECTED EMPLOYMENT GROWTH FOR SELECTED OCCUPATIONS IN
EDUCATION 2004-14

MINNESOTA	ESTIMATED EMPLOYMENT 2004	PROJECTED EMPLOYMENT 2014	PERCENT CHANGE	CHANGE IN EMPLOYMENT	REPLACEMENT OPENINGS	TOTAL OPENINGS
All Occupations	2,895,658	3,265,658	12.8%	370,000	679,020	1,049,020
Education Occupations						
Education Administrators, Preschool and Child Care	919	1,065	15.9%	146	230	376
Education Administrators, Elementary and Secondary	3,420	3,616	5.7%	196	850	1,046
Education Administrators, Postsecondary	1,697	1,982	16.8%	285	420	705
Education Administrators, All Other	734	809	10.2%	75	180	255
Educational, Vocational, and School Counselors	4,579	5,389	17.70%	810	1,050	1,860
Total Education Occupations	11,349	12,861	na	1,512	2,730	4,242

Source: Minnesota Department of Employment and Economic Development, 2006.

One other measure of the demand for school counselors is the ratio of students to counselors. According to the National Center for Education Statistics, the student to counselor ratio in Minnesota public schools was 806 to one in 2002. The median ratio

among all 50 states is 429 to one.³ One would expect that since Minnesota's ratio is considerably higher, school counselors would have a higher workload. This may create a demand for additional counselors.

5.4 Perceptions of the Professional Community

5.4.1 Current and Anticipated Employer's Demand for Employees with an Ed.D.

Four administrators at higher education institutions and four representatives from local school districts were interviewed to estimate the demand for employees with an Ed.D. None of the four higher education employers require an Ed.D. or any doctorate for most administrative positions, such as dean or vice-president, though having a doctorate is clearly preferred. For instance at one community college interviewed, three of five deans have a doctorate.

Together, three of these higher education institutions have a total of 26 employees in senior administrative positions where a doctorate is preferred but not required. Two institutions indicated they each will have three openings in senior administration over the next three years. Another institution indicated it would have three to six openings in the next three years. These openings were expected to be in the following areas:

- Administration (three respondents).
- Program evaluation (two respondents).
- Academic affairs (one respondent).

As was the case with higher education employers, all four school district respondents indicated that no positions currently require a doctorate. Two respondents, however, noted that all positions benefit when an employee sought additional education. Also, one school district noted that all teaching positions in the district have a salary escalator for obtaining a doctorate. Another district has a salary escalator for obtaining a doctorate only for principals and other administrators. Such policies serve as an incentive for current employees to pursue advanced graduate degrees.

Two of the four school districts indicated that they would have five openings each in the next three years for which a doctorate would be preferred but not required. These openings would be in the areas of:

- Curriculum.
- Leadership.
- Special education.
- Testing, measurement, and evaluation.

The other two districts expect to have some similar openings and communication and interpersonal skills will be most important to these positions.

³ "Counselor ratios by state 2002". accessed October 2006:
<http://www.pathwaystocollege.net/PCNLibrary/ViewBiblio.aspx?aid=1400>

All employers were asked if they had a preference between Ph.D. or Ed.D. trained employees. The higher-education gave mixed responses. Two said there was no real differentiation made. Another two indicated that a Ph.D. is preferred for academic fields, but Ed.D. is becoming more respected. Two school-district respondents indicated they had no preference between the two, while one said they marginally preferred Ph.D. graduates.

5.4.2 Professional Associations' Assessment of Student Interest

There is considerable interest in Ed.D. programs among the professional associations interviewed. Specifically:

- A representative from the Minnesota Association of Secondary School Principals estimated that 60 percent of the membership did not have a doctorate and half of those would be interested in obtaining an Ed.D.
- Similarly, a representative from the Minnesota Elementary School Principals' Association estimated that approximately half of school principals (who were not facing retirement within the next ten years) would be interested in the Ed.D.
- A respondent from the Minnesota School Boards Association indicated that half of current superintendents without a doctorate would likely be interested in pursuing an Ed.D.

One respondent articulated the appeal of the Ed.D. by noting that those who are already planning on obtaining a specialist's degree need only take a few extra classes to obtain the doctorate.

5.4.3 Professional Associations' Assessment of Potential Barriers to Participation

The four respondents from professional associations were asked to assess barriers to participation in a possible Ed.D. program. Three to four respondents indicated that the following barriers would very likely prevent interested professionals from participating in an Ed.D. program:

- Programs not being located convenient to work or home
- Scheduling of courses during the day
- Inflexible course delivery methods (need for more alternatives to classroom-based courses)

Three respondents took time to stress the need for programs to schedule classes in the evenings, during summer, and on weekends. When asked about prospective students'

preference for on-line classes versus traditional classroom settings, all five indicated that a mixture of the two would be needed.

5.4.4 Professional Association and Employer Ratings of Important Ed.D. Skills and Competencies

Both employers and professional association respondents were asked to rate the importance of skills and competencies that should be found in a typical Ed.D. program curriculum. The most common responses are summarized below:

- Nine respondents (four employers and five professional association representatives) indicated that *proficiency in communication and leadership and management* were very important.
- Eight respondents (five employers and three professional associations) indicated that *sensitivity to cultural differences* was very important.
- Six respondents (3 employers and 3 professional associations) indicated the following were very important skills:
 - Interpreting administrative data for operational use
 - Organizational development and productivity
 - Experience in teaching
- Six respondents (four employers and two professional associations) indicated that the following were very important skills:
 - Policy analysis
 - Program evaluation

The respondents also identified the following other important competencies:

- Ability to work effectively in a political and highly politicized environment
- Conflict resolution skills
- Diplomatic skills
- Experience serving as a mentor or coach
- Experience evaluating staff

5.4.5 Professional Association and Employer Concerns

One respondent noted that the standards for the program should be high and that the curriculums and internships should be rigorous. On a related note, another respondent stated that Ed.D. programs needed to have highly respected full-time faculty.

5.5 Perceptions of the Academic Community

5.5.1 Anticipated Demand

All eight faculty members and graduate directors indicated that the professional community was supportive of the proposed Ed.D. program. Specifically, they stated that:

- Employers were supportive of and interested in educational opportunities at that level for their staff.
- Current and former students had expressed interest, and some are delaying their educational plans until MnSCU's program is approved.

One respondent noted getting frequent questions about whether their university had a doctoral program.

When asked about education areas facing a specific shortage of doctoral trained employees, some identified specific areas and others noted the need for generalists. Respondents identified the following specific areas facing shortages:

- Math, science, and technology
- Reading
- ELL
- Working with community
- Special education
- Education psychology
- Counseling
- Education leadership
- Assessment and program evaluation
- Adult and community college education

Two respondents indicated a need for generalists who could manage other people.

As for student interest, most respondents agreed that 10 percent of current master's students would be interested in pursuing an Ed.D. One respondent indicated that 25 percent of students would be interested. Two respondents pointed out that students in nearby states would be interested in the program because Wisconsin's and North Dakota's programs typically had more applicants than they could accept.

Four respondents indicated that most of the master's students who expressed interest would be ready for doctoral work. One respondent noted that the current master's degree curriculum at the respondent's university would have to include more statistics courses to prepare students for doctoral level work.

5.5.2 Instruction and Potential Barriers

Nearly all respondents noted that the universities in the MnSCU system had substantial connections to potential employers of Ed.D. program graduates. One respondent did not know about specific connections, while another thought there was definitely room for improvement. When asked about the contribution doctoral students could make to the university community, respondents indicated that the Ed.D. program would:

- Increase teaching capacity.
- Stimulate research and energize the community.
- Strengthen the academic community and general Minnesota workforce.
- Raise the status of the university and bring prestige.

Respondents were also asked to assess barriers that might prevent interested students from enrolling in an Ed.D. program, with these results:

- Six to seven respondents rated the following barriers as very likely to prevent students from enrolling:
 - Scheduling of courses during the day
 - Inflexible course delivery methods (need for more alternatives to classroom-based courses)
- Two to three respondents also identified the following barriers as very likely to hinder student enrollment:
 - Cost of attendance
 - Programs not being located convenient to work or home
 - Lack of time

In addition, respondents were asked to reflect on their teaching experience and identify strategies that would maximize student access to the program. The faculty suggested the following:

- Provide enough funding (teaching assistantships, graduate assistantships, and dissertation fellowships).
- Make sure mentoring and networking opportunities are available.
- Consider making the program flexible:
 - Admit students who do not meet requirements but demonstrate great potential.
 - Accommodate the needs of both full-time and part-time students.

- Allow credits earned during a master's to count toward a doctorate.
- Differentiate the doctoral program from others, perhaps by focusing on technology, diversity, or ELL.

5.5.3 Other Concerns Expressed by the Academic Community

One faculty member noted that there needed to be an effort to address access and to discuss what it meant to provide a rigorous applied doctoral program. Another faculty member expressed concerns over their perception that MnSCU may limit the number of proposed applied doctoral programs per university.

5.6 Conclusions

Interviews with members of both professional associations and the academic community indicated there would be students interested in the Ed.D. program. Specifically, two of the professional associations indicated that half of their members who do not currently hold doctorates would be interested in an Ed.D. program. Also, members of the academic community noted fielding calls from former and current students about whether the university had an Ed.D. program.

One concern raised during the interviews with academic officers was the possible effect of tuition remission on an Ed.D. program. If a substantial number of employees of MnSCU enroll in the Ed.D. program and also claim tuition remission, there may not be enough resources generated to support the program. Also, the most common barriers to program participation identified were inflexible scheduling of courses and delivery methods. Future students are expected to prefer evening and weekend courses, and a balance of on-line and classroom-based teaching.

Further, it is expected that graduates of an Ed.D. program would face a promising job market in Minnesota. The number of postsecondary educational administrators is expected to grow by 16.8 percent, with a total of 705 openings in Minnesota between 2004 and 2014. There are expected to be 1,046 openings for primary and secondary school administrators between 2004 and 2014. Also, employer interviews confirmed that there would be job openings in the next three years for which an Ed.D. would be preferred.

**6.0 CONCLUSIONS FROM THE
NEEDS ASSESSMENT FOR
APPLIED DOCTORATES IN
MINNESOTA**

6.0 CONCLUSIONS FROM THE NEEDS ASSESSMENT FOR APPLIED DOCTORATES IN MINNESOTA

This final section of the needs assessment report, attempts to collate all data, opinions, perceptions and predictions regarding the three applied doctoral programs currently proposed for MnSCU institutions. MGT has incorporated considerable anecdotal qualitative input, along with historical and projected quantitative data to identify indicators of need for each proposed degree program. Several models are utilized to estimate level of potential annual demand. These estimates are not intended to represent specific enrollment projections for a given program at a particular institution or location, but only as macro indicators of enrollment potential. In each case we have taken a relatively conservative approach when developing these projections.

6.1 Anticipated Demand for Doctoral Programs Among Potential Students

The Minnesota higher education market indicates some substantial opportunities for universities within the Minnesota State Colleges and Universities (MnSCU) system to begin conferring applied doctoral degrees. There are currently only two doctor of psychology (Psy.D.) programs accredited by the American Psychological Association (APA), one doctor of nursing practice (DNP) program accredited by the Commission on Collegiate Nursing Education (CCNE), and three schools/departments accredited by the National Council for Accreditation of Teacher Education (NCATE) offering doctor of education (Ed.D.) programs. Indeed, MnSCU's entry into these markets will likely raise the standards of doctoral education in these disciplines across the state as MnSCU's well-regarded university faculty will begin training the future leaders of Minnesota's health care, education, and psychology communities.

Interviews with MnSCU faculty and members of professional associations revealed a general interest in all three degrees. Specifically, representatives from the following professional associations anticipated that their members would be interested in pursuing a doctorate:

- Minnesota Association of Secondary School Principals
- Minnesota Elementary School Principals' Association
- Minnesota Psychological Association
- Minnesota School Psychologists Association
- Minnesota Nurses Association¹

To estimate projected student interest in each of the three proposed degree programs, MGT employed three different methods in order to identify a range of need or demand. The first model is based on current master's student enrollment patterns, and will be referred to as the *Student Transition Model* (STM). The second and third projection models compare the current number of doctoral graduates in each field to a market share benchmark and a national benchmark, respectively. These two models are

¹ The Minnesota Nurses Association has taken no position on the DNP, but conversations with some nurses about the DNP indicate there is interest in the degree.

referred to as the *Market Share Model* (MSM) and the *National Benchmark Model* (NBM).

As depicted in Exhibit 6-1, these models generate a range of projected student interest for each applied doctoral degree. For the proposed Ed.D program, the potential annual enrollment numbers range from 9 (the MSM estimate) to 186 (the STM estimate). For the Psy.D. degree, the potential demand ranges from 7 (the STM model) to 72 students annually, via the NBM model. For the DPN degree, the projected interest yielded by the models are unusually low (7 to 18 students per year) probably because the degree program is relatively new within the industry and suitable benchmark data do not exist. Please note that all of these estimates are intended to provide a general range of potential demand and should be interpreted with caution.

**EXHIBIT 6-1
PROJECTED RANGE OF ANNUAL APPLIED DOCTORAL DEGREE PROGRAM
PARTICIPANTS**

MODEL NAME	DNP	Psy.D.	Ed.D.
Student Transition Model (10% assumption)	7	7	74
Student Transition Model (25% assumption)	18	18	186
Market Share Model	na	9	9
National Benchmark Model (Median)	na	16	33
National Benchmark Model (90th Percentile)	8	72	86

The remainder of this section describes each of the models and its assumptions in more detail.

6.1.1 The Student Transition Model (STM)

The first STM model assumes that 10 percent of the 2005 master's graduates will pursue a doctorate, and that these students will attend MnSCU universities proportionate to the master's degree market patterns. For example, suppose there were 100 master's graduates statewide in Education. Then the STM model suggests that ten of these would be interested in pursuing a doctorate. Supposing MnSCU accounts for 50 percent of all master's graduates, then we assume that five of the ten will be interested in enrolling in the applied doctorate program to be offered at MnSCU institutions. We also apply a second similar scenario (using the STM model) assuming that 25 percent of master's graduates will pursue a doctorate.

MGT's assumption that ten to twenty-five percent of master's students will likely pursue an applied doctorate is based on our interviews with faculty. Faculty members were asked to assess what percent of master's degree students they thought would eventually pursue an applied doctorate degree. Respondents indicated levels ranging from ten to fifty percent. Using the STM model and the ten percent capture rate, we estimate an annual applicant pool of 74 students in education, 7 in nursing, and 7 in psychology (**Exhibit 6-2**). The annual estimates increase to 186 students in education, 18 in nursing,

Conclusions for the Needs Assessment for Applied Doctorates in Minnesota

and 18 in psychology when the assumed percent of master's graduates pursuing a doctorate increases to 25 percent.

**EXHIBIT 6-2
PROJECTED RANGE OF ANNUAL APPLIED DOCTORAL DEGREE PROGRAM
PARTICIPANTS
STUDENT TRANSITION MODEL**

COLLEGE OR UNIVERSITY	MASTERS IN NURSING	MASTERS IN PSYCHOLOGY	MASTERS IN EDUCATION
Bemidji State University	-	-	44
Metropolitan State University	13	3	-
Minnesota State University-Mankato	15	11	175
Minnesota State University-Moorhead	6	8	45
Saint Cloud State University	-	51	99
Southwest Minnesota State University	-	-	267
Winona State University	36	-	112
MnSCU Subtotal	70	73	742
University of Minnesota-Duluth	-	10	38
University of Minnesota-Twin Cities	104	62	533
Univ. of Minnesota Subtotal	104	72	571
Adler Graduate School	-	36	-
Argosy University-Twin Cities Campus	-	19	1
Augsburg College	3	-	3
Bethel University	9	13	46
College of Saint Catherine	14	-	95
College of Saint Scholastica	20	-	60
Concordia University-Saint Paul	-	-	49
Crown College	-	-	2
Hamline University	-	-	175
Mayo School of Health Related Sciences	30	-	-
Saint Mary's University of Minnesota	25	50	945
University of Saint Thomas	-	36	303
Other Universities' Subtotal	101	154	1,679
Total	275	299	2,992
MnSCU's Share	25%	24%	25%
Univ. of Minnesota's Share	38%	24%	19%
Other Universities' Share	37%	39%	56%
Scenario One			
10% Interested in Continuing to Doctorate	28 (=275 x 1/10)	30 (=299 x 1/10)	299 (=2,992 x 1/10)
Assume Same Share of Market as Master's	7 (=25% x28)	7 (=24% x30)	74 (=25% x299)
Scenario Two			
25% Interested in Continuing to Doctorate	69 (=275 x 1/4)	75 (=299 x 1/4)	748 (=2,992 x 1/4)
Assume Same Share of Market as Master's	18 (=25% x69)	18 (=24% x75)	186 (=25% x748)

source: IPEDS, 2005 completion file.

6.1.2 The Market Share Model (MSM)

The MSM model assumes that public universities would increase their share of doctoral graduates from Minnesota universities to the levels reached in 2000 through MnSCU universities. For example, suppose that 50 of 100 doctoral program graduates were from public universities in 2000, and by 2005, 10 of 100 were from public universities. We then assume that MnSCU programs could generate interest from an additional 40 students to reach the 2000 level benchmark. Applying this method to the number of doctoral program graduates in 2005, suggests that if another 9 Ed.D. students graduate from public institutions each year, Minnesota would reach the public-sector's market

share reached in 2000 (**Exhibit 6-3**). Correspondingly if another 9 students graduated from public institutions annually with a Psy.D., then the public sector would reach the public-sector's market share reached in 2000. Because all of the reported doctoral graduates are from University of Minnesota between 2000 and 2005, we did not apply this method to proposed applied doctorate in nursing. Further this model assumes the growth in market share would come from students who would otherwise go to universities in the private sector.

**EXHIBIT 6-3
PROJECTED NUMBER OF ANNUAL APPLIED DOCTORAL DEGREE PROGRAM
PARTICIPANTS
MARKET SHARE MODEL**

Graduate Degrees Awarded in Minnesota 2005	NURSING	PSYCHOLOGY	EDUCATION
Doctorate Degrees Awarded	11	106	115
Public universities' Market Share in 2005	100%	31%	53%
Market Share in 2000	100%	40%	61%
Number of Additional Doctorates Needed for public universities to match market share obtained in 2000	na	9	9

source: IPEDS, 2005 completion file. Notes: The Minnesota completer numbers exclude Walden University which is an on-line university with graduates from across the country

6.1.3 The National Benchmark Model (NBM)

For the NBM model, MGT first computed the ratio of doctorate graduates to master's graduates for all states and territories using IPEDS data. Then we compared Minnesota's current ratio to the median and ninetieth percentile for the 50 states and three territories. For example, suppose the national median of doctorate to master's graduates is 20% and Minnesota's ratio was 10% (1/10). Then if Minnesota universities doubled the number of doctoral program graduates, then it would equal this national benchmark.

Given the increasing number of universities in the private market offering applied doctorate degrees in psychology and education via primarily on-line correspondence, we have applied this metric to graduates from public-universities only. Using this method, Minnesota exceeds the median benchmark by one graduate in nursing (**Exhibit 6-4**). Further, the number of additional doctorates in psychology from Minnesota public universities could range between 16 and 72, and would thus range between the national median and 90th percentile national benchmark. Finally, in the area of the applied Ed.D. degree, universities in Minnesota could award an additional 33 to 86 degrees each year and stay within the national median and 90th percentile range.

**EXHIBIT 6-4
PROJECTED RANGE OF ANNUAL APPLIED DOCTORAL PROGRAM
PARTICIPANTS
NATIONAL BENCHMARK MODEL**

Graduate Degrees Awarded by Public Universities in Minnesota	NURSING	PSYCHOLOGY	EDUCATION
Doctorate Degrees Awarded by public universities	11	46	72
Master's Degrees Awarded by public universities	175	151	1315
Ratio of Doctorates to Masters Awarded by Public Universities			
Minnesota	6%	30%	5%
Median for 50 states	6%	41%	8%
90th percentile for 50 states	11%	78%	12%
Number of Additional Doctorates Needed for MN to Reach National Median	-1	16	33
Number of Additional Doctorates Needed for MN to Reach 90th Percentile among states	8	72	86

source: IPEDS, 2005 completion file. Notes: The Minnesota completer numbers exclude Walden University which is an on-line university with graduates from across the country. These national estimates include all 50 states, Guam, the Virgin Islands, and Puerto Rico. Also those whose obtained a second masters in one of the identified areas are also counted as completers.²

6.2 Doctoral Graduates' Job Opportunities and Impact on the Minnesota Workforce

It appears that graduates of these programs will have substantial in-state job opportunities available to them. Occupation growth projections for jobs related to all three degrees (**Exhibit 6-5**) are higher than the average for the state. For instance, the number of registered nurses is expected to grow by 28 percent from 2004 to 2014, with an estimated 24,042 openings over the same period. The number of postsecondary education administrators is expected to grow by 17 percent between 2004 and 2014, with an estimated 705 openings. Further, the expected retirement of baby boomers in senior positions will create job opportunities for doctoral graduates across Minnesota and the nation.

² The counting of double majors in the National Benchmark model is the reason that the number of masters graduates in Minnesota does not exactly correspond to the numbers given in previous chapters. Specifically, 151 psychology masters are listed in table 6-4, but in table 4-2 the number of masters from public universities totals 145 because there the 6 double majors from Saint Cloud University are excluded. Similarly, 1315 education masters are listed in table 6-4, but there are 1,313 in table 5-3 from public universities because 2 double majors were excluded.

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**EXHIBIT 6-5
PROJECTED OCCUPATION GROWTH 2004-14**

MINNESOTA	ESTIMATED EMPLOYMENT 2004	PROJECTED EMPLOYMENT 2014	PERCENT CHANGE	CHANGE IN EMPLOYMENT	REPLACEMENT OPENINGS	TOTAL OPENINGS
All Occupations	2,895,658	3,265,658	12.8%	370,000	679,020	1,049,020
Education Occupations						
Education Administrators, Preschool and Child Care	919	1,065	15.9%	146	230	376
Education Administrators, Elementary and Secondary	3,420	3,616	5.7%	196	850	1,046
Education Administrators, Postsecondary	1,697	1,982	16.8%	285	420	705
Education Administrators, All Other	734	809	10.2%	75	180	255
Educational, Vocational, and School Counselors	4,579	5,389	17.70%	810	1,050	1,860
Subtotal Education Occupations	11,349	12,861	na	1,512	2,730	4,242
Psychology Occupations						
Clinical, Counseling, and School Psychologists	3,401	4,074	19.80%	673	740	1,413
Industrial-Organizational Psychologists	38	50	31.60%	12	10	22
Psychologists, All Other	197	228	15.70%	31	40	71
Marriage and Family Therapists	349	432	23.80%	83	80	163
Mental Health Counselors	1,424	1,739	22.10%	315	330	645
Rehabilitation Counselors	2,200	2,598	18.10%	398	500	898
Counselors, All Other	1,335	1,533	14.80%	198	250	448
Subtotal Psychology Occupations	8,944	10,654	na	1,710	1,950	3,660
Registered Nurses	49,119	62,881	28.00%	13,762	10,280	24,042

Source: Minnesota Department of Employment and Economic Development, 2006.

Regional projections available for the period 2002 to 2012, indicate similar levels of growth for the seven-county Minneapolis-St. Paul metro area and greater Minnesota (**Exhibit 6-6**). The notable exceptions are the number of mental health counselors and rehabilitation counselors, which are expected to grow by 45% over the decade in greater Minnesota, compared to a 25-34% growth rate for the seven-county metro area.

**EXHIBIT 6-6
PROJECTED OCCUPATION GROWTH 2002-12 IN 7-COUNTY MINNEAPOLIS-ST.
PAUL METRO AREA AND GREATER MINNESOTA**

7-County Minneapolis-St. Paul Metro Area	ESTIMATED EMPLOYMENT 2002	PROJECTED EMPLOYMENT 2012	PERCENT CHANGE	CHANGE IN EMPLOYMENT	REPLACEMENT OPENINGS	TOTAL OPENINGS
All Occupations	1,721,521	1,978,163	15%	256,642	398,668	655,310
Education Occupations						
Education Administrators, Preschool & Child Care	612	701	14.5%	89	152	241
Education Administrators, Elementary & Secondary	1,518	1,614	6.3%	96	377	473
Education Administrators, Postsecondary	1,441	2,057	42.7%	616	358	974
Education Administrators, All Other	565	691	22.3%	126	140	266
Educational, Vocational, and School Counselors	1,844	2,171	18%	327	421	748
Subtotal Education Occupations	5,980	7,234	na	1,254	1,448	2,702
Psychology Occupations						
Clinical, Counseling, and School Psychologists	1,648	1,991	21%	343	360	703
Industrial-Organizational Psychologists	33	42	27%	9	7	16
Marriage and Family Therapists	77	93	21%	16	18	34
Mental Health Counselors	535	666	25%	131	122	253
Rehabilitation Counselors	1,476	1,974	34%	498	337	835
Subtotal Psychology Occupations	3,769	4,766	na	997	844	1,841
Registered Nurses	28,072	36,248	29%	8,176	5,874	14,050
Greater Minnesota (excluding 7-County Minneapolis-St. Paul Metro Area)	ESTIMATED EMPLOYMENT 2002	PROJECTED EMPLOYMENT 2012	PERCENT CHANGE	CHANGE IN EMPLOYMENT	REPLACEMENT OPENINGS	TOTAL OPENINGS
All Occupations	1,169,304	1,337,632	14%	168,328	278,155	446,483
Education Occupations						
Education Administrators, Preschool & Child Care	328	397	21%	69	82	151
Education Administrators, Elementary & Secondary	1,510	1,579	5%	69	376	466
Education Administrators, Postsecondary	804	1,045	30%	241	199	440
Education Administrators, All Other	377	406	8%	29	93	123
Educational, Vocational, and School Counselors	1,428	1,712	20%	284	326	610
Total Education Occupations	4,447	5,139	na	692	1,076	1,790
Psychology Occupations						
Clinical, Counseling, and School Psychologists	838	1,064	27%	226	183	409
Industrial-Organizational Psychologists	64	77	20%	13	14	27
Marriage and Family Therapists	43	50	16%	7	10	19
Mental Health Counselors	586	850	45%	264	135	399
Rehabilitation Counselors	893	1,293	45%	400	204	604
Subtotal Psychology Occupations	2,424	3,334	na	910	546	1,458
Registered Nurses	23,383	30,801	32%	7,418	4,894	12,312

Source: Minnesota Department of Employment and Economic Development, 2006.

Additionally, interviews with employers in all three fields (nursing, psychology, and education) generally confirmed the government projections for future employment demand. Employers also identified areas of particular need, such as:

- Forensic psychology in psychology.
- Faculty positions in nursing.
- Higher education administration, program evaluation, and curriculum in the education field.

Moreover, a portion of graduates from these programs will complete their degrees while retaining their current jobs. These professionals and their employers will benefit from the new skills and knowledge gained through completing the doctoral program. In an economy that increasingly values “knowledge workers,” expanding the doctoral education opportunities in Minnesota is an important contribution to the economy.

6.3 Barriers and Concerns

Through our interviews with academic officers and members of the faculty of system institutions, we identified several concerns related to establishing doctoral programs:

- Two respondents expressed concern over tuition remission in the Ed.D. program. If a substantial portion of students claim tuition remission, this will likely limit the resources available to the program, which is expected to be funded through tuition.
- Three respondents in the psychology academic community expressed concerns over limited resources. As one respondent phrased it, good doctoral programs do not pay for themselves. There is a desire for the system to assist in the funding of the doctoral programs.
- Some respondents pointed out the challenges of the collaborative model. They noted that initially the blending of philosophies can be a challenge.
- Finally, members of both the academic community and professional associations in the three fields agreed that the following would be very likely to prevent interested students from enrolling in a doctoral program:
 - Scheduling of courses during the day and other times not convenient to students
 - Cost of attendance
 - Programs not being located convenient to work or home

- Inflexible course delivery methods (need for more alternatives to classroom-based courses)

6.4 Final Comments

After scanning both the educational and professional environment surrounding these three proposed applied doctoral degree programs from MnSCU, the needs assessment has identified a series of indicators that point to reasonable demand for each. Though the projections and estimates of annual demand vary dramatically depending on the model and methodology utilized, as well as the discipline; it is apparent that there is considerable expressed interest, which will eventually translate into some enrollment share for participating MnSCU institutions.

APPENDIX A:

INTERVIEWS

APPENDIX A INTERVIEWS

Academic Officer Interviews

Dr. William, Lowe Provost & Vice President of Academic Affairs	Metropolitan State University
Dr. Scott , Olson Vice President for Academic Affairs	Minnesota State University, Mankato
Dr. Bette, Midgarden Vice President for Academic Affairs	Minnesota State University Moorhead
Dr. Michael , Spitzer Provost/Vice President for Academic Affairs	St. Cloud State University
Dr. Sally, Johnstone Vice President for Academic Affairs	Winona State University
Dean Dennis, Nunes Dean, Graduate Studies	St. Cloud State University

Doctor of Nursing Practice (DNP) Interviews

Dr. Carolyn Williams, Committee Chair	AACN Chair of the DNP Task Force Committee
Dr. Donna Hathaway, Committee Chair	AACN Chair of Task Force on the Essentials of Nursing Education for the Doctor of Nursing Practice (TFEN - DNP)
Dr. Joanne Pohl, President	Nat'l Organization of Nurse Practitioner Faculties (NONPF) AND Univ. of Michigan
Ms. Linda Mash	MNA (MN Nurses Assoc) Assembly of Practice and Education Leaders (AMPEL)
Dr. Diane Twedell, Director of Professional Development, Nursing Department	Mayo Clinic
Dr. Christine Seitz, Chief Nursing Officer	Allina Hospitals and Clinics
Dean Timothy M. Gaspar, Dean, College of Nursing & Health Sciences	Winona State University
Dr. Jane Giedt, Professor, RN	Tricollege University Nursing Consortium (MSU Moorhead, Concordia, North Dakota State Univ)
Dr. William McBreen, PhD, RN Director, Master's Program in Nursing	Winona State University

Doctor of Psychology (Psy.D.) Interviews

Dr. Erwin Concepcion	Minnesota Department of Health
Dr. Willie Garrett, Chief Professional Officer	Minnesota Psychological Association
Dr. Olivia Melroe, President	Minnesota Psychological Association
Dr. Daniel Sachau, Industrial Organization Psychology, Graduate Program Director	MSU, Mankato
Dr. Russell Lee, Chair graduate program in Psychology	Bemidji State University
Dr. Kelly Hazel, Professor & M.A. program coordinator	Metropolitan State University, College of Professional Studies
Dr. Margaret L. Potter, Graduate Coordinator of School Psychology	MSU, Moorehead
Dr. Trae Downing, Graduate Coordinator School Counseling Graduate Program	St. Cloud State University
Dr. Kevin Filter, Professor	MSU, Mankato
Dr. Glenn Spielmans, Professor	Metropolitan State University, College of Professional Studies

Doctor of Education (Ed.D.) Interviews

Dr. Robert, Jones Senior Vice President for System Academic Administration	University of Minnesota, Office for System Academic Administration
Dr. Bill, Tschida Vice Chancellor for Human Resources	Minnesota State Colleges and Universities System
Dr. John, O'Brien Vice President of Academic Affairs	Century Community and Technical College
Dr. Bernardine , Bryant Vice President of Budget & Administrative Services	Normandale Community College
Superintendent John, Currie Superintendent	Rosemount-Apple Valley-Eagan
Dan Lowenson	Minneapolis Public School District
Judy McDonald, Director of HR Osseo School District	Osseo Public School District
Deb Henton, Chief of Staff for St. Paul Superintendent	St. Paul Public School District
Dr. Kristan Cilente, Standing Committee for Graduate Students and New Professionals	ACPA (student affairs professional association);
Dr. Charles Kyte, Executive Director	Minnesota Association of School Administrators
Dr. Bob Meeks, Executive Director	Minnesota School Boards Association
Dr. Joann C. Knuth, Executive Director	Minnesota Association of Secondary School Principals
Dr. P. Fred Storti, Executive Director	Minnesota Elementary School Principal's Association
Dean Carmen Coballes-Vega, College of Professional Studies	Metropolitan State University
Dean Michael Miller, Education	Minnesota State University, Mankato
Dr. Charles Moore, Graduate Coordinator, Educational Administration and Leadership Graduate Programs	St. Cloud State University

Dr. Niloufer Merchant, Graduate Coordinator, Educational Administration and Leadership Graduate Programs	St. Cloud State University
Dr. Catherine McCartney, Coordinator, Graduate Programs in Education	Bemidji State University
Dr. Dennis Van Berkum, Educational Leadership	Tricollege University (MSU Moorhead, Concordia, North Dakota State University)
Dr. Distad	College of St.Catherine and Minnesota Association of Colleges for Teacher Education
Dr. Lee Gray	Winona State University