A Historical Cross-Disciplinary Perspective on the Professional Doctorate in Occupational Therapy

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Clinical doctorates are emerging in occupational therapy. By examining the development of clinical doctorates in medicine, dentistry, psychology, pharmacy, nursing, and physical therapy, implications can be drawn for the future of occupational therapy education. These histories offer us a sense of the distinct purpose and curricular structure of the professional doctorate, its successes and problems, its general sequence of unfolding, the political dynamics surrounding it, and the potential it holds for supporting the profession’s capacity for service to patients.


Because the professional doctorate is a new degree for occupational therapy, there may be confusion about how it is distinguished from a research doctorate. The most common misconception is that the professional doctorate resembles or attempts to replace the research doctorate. Table 1 illustrates the key differences between professional and research doctorates (Unger, 1996).

The Doctor of Medicine: Historically Established and Influential Model of the Professional Doctorate

Professional doctorates emphasize sophisticated practice competencies rather than research and knowledge production. The best known professional doctorate is the Doctor of Medicine (MD). Unlike currently emerging professional doctorates, curricula in medicine have such a long history that they have been well-established as the norm for a first professional degree and entry into practice. Both dentistry and pharmacy have clearly modeled their professional doctorates after medicine. The history of these three professional doctorates offers important insights into how their curricular structures may influence the development of occupational therapy within a rapidly changing and competitive health care environment.

The Lengthy History of Medicine’s Professional Doctorate

Formalized medical education can be traced as far back as 1900 B.C. in Egypt and the 5th century B.C. in Greece. In medieval times, the first European medical schools were created within monasteries and cathedral schools, emphasizing service to others. When universities were organized in the 12th and 13th centuries A.D., they included three strongly allied professional schools: medicine, law, and theology (Bullough, 1966).

The first medical schools were begun in the United States in the late 1700s. In the early 1800s, the MD typically required a baccalaureate degree with a short apprenticeship, a preparation still practiced in some countries today. A small percentage of students chose to complete an additional 4 to 8 months of postprofessional training. Large numbers of physicians doctors were graduated from short, poor quality programs. Schools, subsisting directly on tuition, vied with each other to attract students (Kaufman, 1976).

Although medicine struggled to upgrade its educational standards during this period of its history, it lacked the power to accredit schools or license graduates. During the 1860s, some schools who adopted the recommended curricular reforms of the American Medical Association (AMA) (3 years of preliminary study with a qualified preceptor, 2 full years of course work, and 4 months of clinical study in a hospital) were quickly closed by low admission numbers, as students flocked to schools with shorter and easier programs. The quality of care provided by American...
The History of Dentistry’s Professional Doctorate: Modeling on Medicine

The emergence of the Doctor of Dental Science (DDS) closely shadows the history of the MD. Although various types of dentistry have been practiced through the ages, the first dental school was established in 1840 at the Baltimore College of Dental Surgery in Maryland. The new doctorate in dentistry required approximately the same curricular structure as did the MD of the time: 2 years of instruction, with 4 months of each year spent in didactic work and the remaining 8 months in practical work in a dental office. Similar to medicine, dentistry struggled to upgrade professional educational standards with little change from the mid-1800s to early 1900s. In 1908, the Dental Faculties Association of American Universities was formed to address this issue, and proposed a 4-year curriculum for the DDS.

However, this goal was not realized until 1926, through acceptance of William Gies’ Report on Dental Education, funded by the Carnegie Foundation. Dental education then underwent a complete reorganization, similar to medicine’s response to the Flexner Report (Ring, 1985). Currently, dental education generally requires 2 to 4 years of liberal arts and basic science course work before admission, a 4-year program of study, and a 1-year clinical residency. Specializations in dentistry are usually pursued in advanced master’s degree programs emphasizing research.

Pharmacy’s Professional Doctorate: In Transition From an Optional to a Required Professional Doctorate

The Doctor of Pharmacy (PharmD) is a present-day example of a profession that is drawing on medicine’s historically established curricular model to move from baccalaureate to professional doctorate education as the first professional degree. Pharmacy has decided to move to all-PharmD education in an effort to enhance practitioner competencies and reflect growth in the knowledge base of the profession. The principal supporting argument has been that the Bachelor in Pharmacy curriculum, which emphasizes vocational and technical skills, cannot adequately prepare pharmacists to respond to the increasing numbers of medications and the constant state of flux in today’s health care systems compared with most baccalaureate programs, which average 125 credits over 4 years. Baccalaureate programs in pharmacy presently require approximately 180 credits over 5 years (Gans, 1990).

Pharmacy’s change to the PharmD has not been without controversy. The University of Southern California (USC) started the first PharmD program in the 1950s (Marx, 1992). Like the earliest MD programs, the PharmD was initially offered as optional training for ambitious graduates of baccalaureate programs. Opposition to the PharmD came primarily from schools defending their own baccalaureate programs in pharmacy and from organizations that employ large numbers of pharmacists, such as the National Association of Chain Drug Stores (Guerrero, 1992; Martin, 1990).

By the 1960s, several schools offered the postprofessional PharmD. At first, the PharmD consisted of 1 year of didactic course work and one additional clinical year. These
curricula soon evolved into 2-year postprofessional programs with a required clinical rotation component (Marx, 1992). This structure of two matriculating pharmacy degrees, one at the baccalaureate level with immediate continuation to the postprofessional PharmD, still exists in some schools. Many programs awarding the two degrees have bridged them into a PharmD curriculum that is similar to the Johns Hopkins model of medical education.

As in medicine and dentistry, professional associations in pharmacy have had an active role in shaping the move to the professional doctorate. In 1977, the American Pharmaceutical Association adopted a policy in support of the PharmD (Gans, 1990). After decades of debate, the American Association of Colleges of Pharmacy (AACP) voted in 1992 to support the PharmD as the sole first professional degree for the field (Buttarro, 1992). The AACP supported an identified societal need for pharmaceutical care, which was envisioned as a necessary increase in pharmacist–patient interactions (AACP, 1994). More autonomous professional roles were envisioned for pharmacists, such as home infusion care, delivery of drug information, product development, and consultation. These complex new responsibilities were considered to be strong indicators that prolonged education and advanced clinical preparation were imperative. The transition to all-PharmD education is scheduled by the AACP for completion by the year 2005.

As of 1997, there were 79 accredited pharmacy programs in the United States. Of these, 57 offer the PharmD as a first professional degree, and 58 offer the PharmD as a postprofessional degree (AACP, 1997). PharmD graduates are reported to be involved in considerably more advanced levels of pharmacy practice than are those who are baccalaureate educated, and do less prescription preparation, have more interaction with patients, have more management responsibility, do more teaching, and participate in more collaborative clinical research (Fjortoft & Engle, 1995). Many schools now offer the postprofessional, or nontraditional, PharmD for baccalaureate-prepared pharmacists who wish to acquire the PharmD credential (Delfino, 1990; Milito, 1995; Trinca, 1994). For the student interested in pharmacy research, 54 pharmacy schools and colleges offer an advanced Master of Science (MS) in areas such as pharmacology–toxicology, medicinal chemistry, or pharmaceutical administration. The MS is the academic path to the Doctor of Philosophy (PhD), which is offered by 35 schools and colleges of pharmacy.

Implications for Occupational Therapy Derived From the Professional Doctorates of Medicine, Dentistry, and Pharmacy

The professional doctorates of medicine, dentistry, and pharmacy offer a broad context in which to ground the questions facing occupational therapy regarding our own professional doctorates. The success of these three fields in their adoption of similar curricular models emphasizing a preliminary degree, advanced education, higher standards for entry, research-based practice, and extended clinical internships recommends this approach to practitioner education as one that has proven effective. In the health care marketplace, graduates of all three of these fields appear to be facilitators of change.

Pharmacy provides a potent example of a health profession’s response to today’s demands for sophisticated practice competencies by upgrading education to the level of the professional doctorate. Like occupational therapy, pharmacy was faced with a steadily increasing, well-above-average number of credits and years required to complete a baccalaureate (Rynyon, Aitken, & Stohs, 1994). The health care system requires that practitioners graduate prepared to autonomously provide client-centered service. As in medicine and dentistry, the first professional doctorates in pharmacy started at innovative universities as optional postprofessional degrees. The potential for an entry-level doctorate became evident as more students chose to matriculate immediately from the entry-level baccalaureate to the postprofessional program before entering practice.

Even drawing on the experience and curricular models in medicine and dentistry, pharmacy will have spanned 50 years from the first postprofessional doctorate to mandated all-PharmD education. During that time, curricula were changing. During the period in which the postprofessional doctorates were optional advanced programs, curricula lengthened, produced new areas of clinical knowledge, developed the new focus on pharmaceutical care, and reached for higher standards than they previously did. Given 50 years to mature, the professional doctorates became very different from the baccalaureate programs and dramatically raised the level of preparation of practitioners. However, if this transition had been accomplished more quickly, would the visions of baccalaureate and professional doctorate education have been as differentiated in pharmacy as they are today? Would the impact on the field, in terms of knowledge base growth and enhanced clinical competencies, have been as great? These are important questions for occupational therapy.

A powerful set of political dynamics can also be observed in the three histories. Professional doctorates were initially created by innovative universities. Foundation involvement was catalytic in the change process. The new curricula were then validated within the field through strong, effective professional associations of educators. Decisions were debated for many years, with resistance from groups with vested interests in baccalaureate education. The move to the professional doctorate has enhanced the voice and power of the practitioners in medicine, dentistry, and pharmacy. Lastly, the curricular structure of the professional doctorate, consisting of a liberal arts degree, 3 years in course work, and 1 year of internship, is recognized as an adequate time frame for professional development by financial aid support structures.
Unique Resolutions of Mission: Professional Doctorates in Psychology and Nursing

Psychology: Two Missions, Two Doctorates

In psychology, the creation of the Doctor of Psychology (PsyD) occurred against the backdrop of the profession’s struggle to identify the specific purpose of advanced education in the field. As a discipline, psychology has pursued two competing aims: the search for universal laws of behavior, and the development of clinical interventions (Barron, Shadish, & Montgomery, 1988). Periodically, this division of purposes has erupted as a rift in the profession, as in the secession of clinical psychologists from the American Psychological Association (APA) in 1917 and again in 1937 (Frank, 1984).

In 1949, the Boulder Model of advanced education in psychology was accepted. It posited that to become skilled clinicians, psychologists must be trained as researchers. This moved the profession to an emphasis on the PhD as the entry-level, first professional degree, strengthening psychology in its competition with psychiatry. Psychology’s commitment to PhD preparation continues today. However, PhD curricula were criticized for not meeting the practitioner’s need for sophisticated clinical preparation, so by the late 1960s, the first clinically oriented professional doctorates were established in psychology (Frank, 1984). This was the beginning of the PsyD.

Thirty years after the establishment of the PsyD, there are now more than 30 PsyD programs (APA, 1996). The PsyD emphasizes advanced clinical practice and attracts students with different priorities than does the PhD. PsyD graduates tend to be employed in positions of greater clinical responsibility and lesser research productivity than are graduates of psychology’s PhD programs (Barrom et al., 1988). The PsyD and PhD provide different types of educational experiences and produce different types of sophisticated professionals in psychology. This division fits the field’s two societal missions: development of knowledge and delivery of services.

Nursing: Eight Doctoral Degrees

Like medicine, dentistry, and pharmacy, the primary mission of the field of nursing is service delivery. However, the primary doctorates in nursing have been PhDs. PhD programs in nursing have tended to focus on advanced practice knowledge rather than on discovery of knowledge per se. In recent years, nursing has added several different professional doctorates, some of which emphasize research and knowledge development. Thus, the purposes of doctorates in nursing appear less clear when contrasted with other fields.

The emphasis of the first generation of nursing doctorates was on the preparation of nursing faculty members. In 1923, the Goldmark Report recommended strengthening nursing education (Martin, 1989). The first doctoral program was a Doctor of Education (EdD) in nursing, begun at Columbia University in 1924. The first PhD program in nursing was established at New York University in 1934. With large numbers of nurses returning from World War II with GI Bill benefits, the number of PhD programs in nursing grew quickly during the 1950s. Concomitantly, the demand for doctorally prepared nursing faculty members also grew (Forni, 1989).

In the 1960s, the first professional doctorate, the Doctor of Nursing Science (DNS), was established, with a focus on psychiatric nursing (Flaherty, 1989). The DNS was, and continues to be, a postprofessional program (Martin, 1989). The introduction of the DNS stimulated discussion of the difference between the PhD and the professional doctorate. The PhD was identified with research competency and the DNS with expert nursing practice (Peplau, 1966). In 1971, the clinical PhD was introduced (Martin, 1989). Schloffeldt (1966) argued that nurses were better served by PhDs in nonnursing disciplines. Others introduced various forms of the postprofessional nursing doctorate, including the Doctorate of Nursing Science (DNSc), Doctorate of Science in Nursing (DSN), and Doctorate of Nursing (DN or DNurs) (Flaherty, 1989; Pearson, Borbasi, & Gott, 1997). Since the start of nursing’s professional doctorates, differentiation of doctorates in nursing has been debated (Martin, 1989; Ziemer et al., 1992). The degree of emphasis placed on research versus clinical preparation in the field’s PhD and professional doctorate programs varies from one educational program to the next.

The creation of nursing specialty roles with board certifications of nurse practitioners, nurse anesthetists, nurse midwives, and others has further complicated the nursing degree picture by pushing all nursing programs toward greater clinical specialization (Bigbee, 1996). A plethora of specialized clinical master’s degree programs in nursing has emerged to produce practitioners to fill these new roles (Cotton, 1997). Curricular emphasis is placed on theories of research utilization in nursing practice (Funk, Tornquist, & Champagne, 1995; Phillips, 1986). Serving as the preliminary degree to the PhD in Nursing, these clinical specialty master’s degrees also increase the pressure on nursing’s research doctorate programs to focus on clinical applications.

Although debate around the role of clinical doctorates within nursing education flourishes, nursing’s professional associations have not yet reached a formal resolution with regard to differentiation of doctoral degrees (Flaherty, 1989; Martin, 1989; Pearson et al., 1997). Requiring a baccalaureate degree for entry-level practice is as yet an unresolved issue in nursing largely because the majority of registered nurses do not have bachelor’s degrees. Despite strong interests in clinician preparation, the profession of nursing appears to endorse the PhD over the professional doctorate as the more desirable terminal degree (Martin, 1989; Ziemer et al., 1992). Numbers of PhD programs have increased rapidly compared with clinical doctorate programs (Flaherty, 1989). As of 1997, there were 56 PhD programs and 10...
postprofessional doctorate programs in the field of nursing (National League of Nursing [NLN], 1997). Interestingly, many schools of nursing have demonstrated a pattern of establishing a professional doctorate first, then adding a PhD program after several more years of building program strength. Often, the professional doctorate program is eventually closed.

The recent addition of an eighth doctorate in nursing, the Nursing Doctorate (ND) is intended to be a first professional degree. It is structurally consistent with professional doctorates in other health care fields (Forni, 1989; Newman, 1997; Peyton, 1997). Students enter ND programs with a baccalaureate and a cluster of prerequisites; they then complete 3 years of course work and 1 year of clinical rotations. There are now four ND programs in the United States (NLN, 1997).

Implications for Occupational Therapy Derived From the Professional Doctorates of Psychology and Nursing

Psychology and nursing have resolved the question of how doctoral education can best fulfill their professions' commitment to society in ways unique to their disciplines. Both began with adherence to the PhD but found that research preparation at the doctoral level needed to be complemented with advanced clinical education to best meet emerging challenges in the health care environment. In this way, these two fields echo the conclusion that can be drawn from the experience of medicine, dentistry, and pharmacy: The professional doctorate is an effective degree structure for the development of advanced clinical knowledge and competencies.

It is evident that as the five professions overviewed thus far have matured, they have each answered in the same way the question of whether disciplinary or extradisciplinary doctorates better serve the needs of their profession. Table 2 illustrates the different purposes that are served and depths of disciplinary knowledge that are provided by disciplinary and extradisciplinary postprofessional doctorates currently available to occupational therapists. As Table 2 shows, the disciplinary degrees provide greater depth of educational preparation pertinent to the profession and enhance the potential of graduates to contribute to occupational therapy's knowledge base.

One of the arguments against the establishment of professional doctorate programs in occupational therapy is that they will compete for students that might have gone into PhD programs. True, all doctoral programs compete for students. However, for practitioners interested in advanced competence, the professional doctorate in occupational therapy is preferable to an extradisciplinary PhD.

Nursing’s history also raises some warnings for occupational therapy. The relative difficulty that the field of nursing has had in establishing a clear direction for its clinical doctorates raises the daunting question of whether enhancing professional status through the upgrading of degree levels for practitioners may not be more difficult in predominantly female professions (Bailey, Tisdell, & Cervero, 1994; Pavalko, 1988). Will occupational therapy, like nursing, see a confusion of purposes in doctoral education, as indicated by a proliferation of professional doctorates and PhD programs emphasizing clinical education? Do we have the strong professional associations of educators who were so instrumental in the adoption of the professional doctorates in medicine, dentistry, pharmacy, and psychology?

The New Professional Doctorates in Occupational Therapy and Physical Therapy

Professional Doctorate Programs in Occupational Therapy

Similar to pharmacy, the number of credit hours and years required to complete an entry-level degree in occupational therapy has grown well beyond that of the typical bachelor's degree (Runyon et al., 1994). The field has three strong disciplinary research doctorate programs and an interdisciplinary research doctorate shared between occupational therapy and physical therapy. Enter the scene, two new clinical doctorates in occupational therapy.

Nova Southeastern University in Florida began offering its Doctorate of Occupational Therapy (DrOT) in 1994. This postprofessional program emphasizes clinical preparation, specialization, and research. Requirements include 90 credit hours beyond the baccalaureate, a clinical rotation of 6 to 12 months, and a dissertation demonstrating original clinical research. Two students had graduated by the spring of 1998. This program does not mirror the traditional Johns Hopkins model of clinical doctorate preparation exemplified by the MD, DDS, PsyD, PharmD, or ND but blends both clinical and research intents.

Creighton University’s Doctorate of Occupational Therapy (OTD) program began in 1995. This postprofessional program focuses on advanced clinical preparation. Degree requirements include 72 credit hours beyond the entry-level degree in occupational therapy and three semesters of clinical rotations. Like the early optional PharmD programs, a small percentage of recently graduated occupational therapists go directly into the OTD program after their baccalaureate or master's first professional degree. However, the program primarily attracts more experienced therapists. At this point, there have been 7 graduates in 1997, 9 in 1998, and 13 anticipated for 1999. The OTD at Creighton resembles in structure the traditional professional doctorate as it was first offered in medicine and is currently offered in pharmacy as an advanced postprofessional degree.

Professional Doctorate Programs in Physical Therapy

As might be expected from the shared roots of the two professions, the emergence of the clinical doctorate in physical therapy is similar in many ways to that of occupational
therapy. Physical therapy has several established PhD programs. Most of these programs are in keeping with the traditional understanding of a research doctorate. In contrast, there are now five new clinical doctorate programs in physical therapy.

The first Doctorate in Physical Therapy (DPT) was offered at USC in 1992 as a postprofessional program provided to its clinical faculty members. It has the traditional curricular structure of a clinical doctorate, with both didactic semesters and advanced clinical rotations. However, unlike occupational therapy, physical therapy has moved quickly to resolve accreditation issues and establish clinical doctorates as first professional degrees. At USC, an entry-level DPT was added to the structure of the postprofessional DPT program within 2 years of the program’s start. The entry-level DPT continues today as the primary offering in physical therapy at USC.

The DPT at Creighton University began as an entry-level program in 1993. It draws a large applicant pool, admitting only students with bachelor’s degrees in other fields. The first class of 47 DPTs graduated in 1996. Class size has steadily increased since then to 55 students entering in 1997. The DPT at Creighton includes six semesters of didactic content and two semesters of clinical experience. The focus is clinical and generalist. Similar entry-level DPT programs are also offered at Slippery Rock College in Pennsylvania and Loma Linda University in California. These DPT programs reflect the traditional curricular structure of the professional doctorate, as seen in MD, DDS, PsyD, PharmD, and ND.

A more uniquely structured clinical doctorate in physical therapy is offered at the University of St. Augustine in Florida. It is a postprofessional DPT requiring the following: 33 to 38 credit hours of didactic work via distance education, 7 to 12 credit hours for a scholarly project or educational product that is defended to a committee, documentation of 2,000 clinical hours after entry into the field, and clinical rotations of 1 to 5 credit hours.

### Implications for the Professional Doctorates of Occupational Therapy and Physical Therapy

Despite the recency of the emergence of professional doctorates in occupational therapy and physical therapy, insights can be drawn from their history. Parallels in the emergence of clinical doctorates in the two professions are (a) the need for advanced practitioner preparation as a response to an increasingly complex health care environment, (b) the pressure of preparing practitioners for entry into a profession with only 2 1/2 years of preparation, (c) a clear fit of the clinical doctorate curriculum with the professions’ commitment to match practitioner preparation with adequate depth in the professional knowledge base, and (d) initial clinical doctorate programs starting up as postprofessional degrees.

The primary contrast between the clinical doctorates of occupational therapy and physical therapy is that occupational therapy’s are postprofessional whereas physical therapy’s are entry level. In occupational therapy, there is currently much discussion about the level at which entry into the field should occur (Hughes, Brayman, Clark, Delaney, & Miller, 1998; Joe, 1998) The emergence of the clinical doctorate in occupational therapy at a postprofessional level, rather than as a first professional degree, may have been due to the unavailability of accreditation of entry-level clinical doctorates at the time they were initiated in occupational therapy. It appears that the scope of the Accreditation Council on Occupational Therapy Education (ACOTE) was limited by language in its agreement with the U.S. Department of Education regarding accreditation of baccalaureate and master’s degree programs. This issue can and should be resolved in the near future, opening the way for ACOTE accreditation of first professional degree clinical doctorates in occupational therapy.

One question that is common to both occupational therapy and physical therapy is how to differentiate between the professional doctorate and the master’s degree. In nursing, occupational therapy, and physical therapy, the master’s
degree has been pulled away from its traditional research focus and toward entry-level professional education with a strong clinical focus. Entry-level master’s education programs must fit all basic patient treatment skills into an already crowded curriculum. Predictably, when comparing the curricula of master’s degree programs that have evolved a clear emphasis on clinical education with the curricula of professional doctorates specifically designed to provide advanced practice competencies, there is going to be some confusion regarding the essential differences.

Summary
Ocational therapy education is at a critical juncture. Our knowledge base and the demands of the health care environment are rapidly increasing beyond the capacity of our baccalaureate programs. A move to the postbaccalaureate level for the first professional degree is being strongly debated.

The histories of the professional doctorates of medicine, dentistry, pharmacy, psychology, and nursing are replete with implications for occupational therapy’s professional doctorates. By grounding our deliberations in the historical perspective offered by the experiences of these other fields, we are provided with a broader context within which to reflect on the important decisions ahead in occupational therapy education. How might the professional doctorate support our potential to meet the needs of patients within the complex health care environment of the future? If we do move to postbaccalaureate entry into the field, which degree might best meet our need for practitioner preparation, the entry-level master’s degree or the professional doctorate?
The professional doctorate offers a successful and accepted degree structure for the preparation of advanced practitioners. It creates a clinical scholar who can autonomously operate as a change agent in health care systems and sensitively interpret the human condition presented by patients. The professional doctorate bears serious consideration in occupational therapy as an educational option.

References
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