

Continuing Professional Development of
Occupational Therapists in School-Based Practice:
Survey of Content and Learning Needs

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Dedication

This dissertation is dedicated to my family, friends and the professional OTs, related service personnel, teachers and other faculty with whom I have had the extremely good fortune to collaborate with on behalf of children throughout my career as a school-based OT. I also dedicate this dissertation to the children that I worked with throughout my career.

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Abstract

The purpose of this study was to identify the continuing professional education practices and needs of occupational therapists currently working in Minnesota schools. Descriptive research using a survey was used to discover knowledge areas important to school-based practice and the preferred methods of delivery of continuous professional learning both in and outside of the school or district setting.

After rating 19 identified knowledge areas for their importance to current practice, OTs rated their exposure to the areas in their pre-service coursework and fieldwork. Although the vast majority of school-based OTs reported exposure to pediatric related coursework, more than half reported no coursework in the school-based practice areas, indicating a lack of preparation by their pre-service program for practice in schools. As generalist preparation is the goal of pre-preparation programs, an expectation of vastly improved school-based preparation appears improbable.

Preferences for delivery of CPE, reported by the responding OTs, included regularly scheduled professional conversations with OTs in the same school or district and formal workshops of 1-3 days in any location. Barriers included cost of continuing education courses and distance to quality professional education for school-based OTs. Time and structure for professional conversations within a school or district also was viewed as supportive of school-based OTs in their professional learning.

School-based practice is one of the largest practice areas for occupational therapists. Lack of pre-service preparation and a structure for obtaining the knowledge and skills needed for practice in schools suggests practice and policy changes to facilitate

improved preparation. Uniform standards for practice in schools, increased support in practice (caseload and workload), access to relevant continuing professional education delivered by methods specifically designed for school-based OTs are implications of this study. Further research is recommended to confirm knowledge and skill areas for a larger group of school-based OTs, to update changing practice parameters, and to measure the impact of continuing education.

Keywords: Occupational therapists in school-based practice, pre-service preparation for occupational therapists, professional development practices for occupational therapists, continuing professional development, school-based occupational therapy.

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CHAPTER 1

Introduction

Occupational therapists (OTs) work in a variety of settings, such as rehabilitation hospitals, psychiatric hospitals, acute care, outpatient clinics, community-based programs, home health, day treatment programs, early intervention teams, long term care facilities, and school-based practice. The role of the occupational therapist in these settings, except in schools, is defined by a medical model, in which a diagnosed problem is ameliorated or cured, using medically based interventions (Swinth et al., 2003). The delivery of services in school settings is based on an educational model, with the provision of occupational therapy services as defined by federal legislation (that is Public Law 94-142 and its updates) to assist a child with a disability to benefit from special education in the Least Restrictive Environment (LRE). The provision of occupational therapy and the knowledge, skills, and abilities required by occupational therapy practitioners in these two types of models are quite different.

Occupational therapists receive a general education that prepares them to work in any of the settings delineated above. As such, they are not specifically prepared to practice in a school setting, which has been considered an advanced practice setting (McEwen, 1995; Punwar & Peloquin, 2000). In the years following implementation of PL 94-142 in 1975, the number of occupational therapists who work in school settings increased, so that schools became the largest practice area in 2006 (29.6% of employed OTs in the United States) (AOTA, 2006a, 2010a; NBCOT, 2004a, 2004b). Presently, school settings are the second largest practice area (26.9% of employed OTs) with

hospital non-mental health currently employing slightly more OTs (28.1%). Many occupational therapists who work in school settings feel that they were not adequately prepared to practice in schools (Brandenburger-Shasby, 2005). In addition, many of the OTs in this practice setting work in isolation. They are often in itinerant positions with little, if any, contact with other occupational therapists, making access to collegial support, mentoring, and professional development challenging (Bergson, 1996; Rainville, Cermak & Murray, 1996; Willis & Case-Smith, 1996).

The lack of educational preparation for school-based practice, standards for practice in educational settings, and requirements for professional development content require that both new and experienced occupational therapy practitioners in school-based settings find support and resources and secure appropriate professional education activities independently. Continuing education activities are required for licensure, but professional development activities appropriate for occupational therapists practicing in schools are limited in frequency and availability. In addition, the activities may not be delivered in formats or processes perceived to be effective for therapists in school-based settings.

Context/ Background

The profession of occupational therapy has experienced significant changes in practice and employment in recent decades (Brandenburger-Shasby & Trickey, 2001). Practice settings have changed in response to federal and state legislation and health care policy (Education for All Handicapped Children of 1975; Balanced Budget Act of 1997; Individuals with Disabilities Education Act of 1990 [IDEA] and its updates). As a

profession evolves, professional practices change in response to social and political pressures. Educational settings employ one of the largest percentages of the total of employed occupational therapists in any work setting. Despite the shift in employment settings for occupational therapists, neither the educational preparation program nor the professional development requirements have changed significantly.

Eighty percent of occupational therapists working in school-based practice (SBP) indicated that they were not prepared for work in this setting upon graduation from an accredited professional preparation program (Shasby, 2000). The knowledge and skills required of occupational therapists in SBP are substantially different from what is normally required for graduation from a standard occupational therapy program (Amundson, 1994; Chandler, 1995; Griswald & Strassler, 1995). Concerns, expressed by occupational therapists and educators of therapists entering school-based practice, include: 1) lack of preparation for professional practice in school settings, 2) lack of understanding about what occupational therapists do in school settings, 3) the fact that completion of fieldwork in school-based practice is not required before employment in that setting, and 4) the fact that school-based courses are not regularly and uniformly included in the educational curriculum.

Though the literature supports more pre-service preparation for occupational therapists in school-based practice, the viewpoint of the national organization, the American Occupational Therapy Association (AOTA), concerning the professional preparation of occupational therapists is that OTs be prepared as generalists (AOTA, 1998a). As recently as November 2006, the AOTA "... continues to advocate against the

trend [for occupational therapists] to demonstrate specialty competencies in order to protect the full scope of practice” (Sandhu, 2006). It appears that the AOTA, the leading organization with broad influence over standards and the curriculum through the Accreditation Council on Occupational Therapy Education (ACOTE^{®1}), does not plan to make changes in its philosophy of generalist preparation in the foreseeable future.

Lacking adequate preparation throughout the past few decades, occupational therapists currently practicing in school settings need access to professional development that leads to competence in the knowledge and skill areas identified in the literature. The occupational therapy literature contains recommended activities and education that include mentoring, shadowing for an initial period of employment, completing a course as a prerequisite to employment, and self-study courses for school-based practitioners in state or regional settings. Others have suggested that employers take responsibility for continuing education specific to the needs of therapists new to school-based practice. Therapists in school-based practice are “on their own,” and “isolated,” without supervision or opportunities to team with other occupational therapists (Brandenburger-Shasby, 2005).

When Congress reauthorized IDEA in 2004, it aligned IDEA with the Elementary and Secondary Education Act (ESEA, 1965), as amended by the No Child Left Behind Act (NCLB, 2001) (Turnbull III, 2005). As these laws were aligned, Turnbull III (2005) clarified that the principle of “... accountability for the outcomes (results) of education”

¹ The ACOTE[®] is the Accreditation Council for Occupational Therapy Education (ACOTE[®]). It accredits approximately 287 occupational therapy and occupational therapy assistant programs.

(p. 321) was emphasized, along with five other principles that support the first. These include: highly qualified teachers, scientifically based instruction, local flexibility, safe schools, and parent participation and choice. The law requires that state educational agencies (SEAs) establish and maintain qualifications for appropriate, adequately prepared and trained personnel with the “content knowledge and skills” to serve children with disabilities in accordance with the provisions of Part B of the law. This includes related service personnel, including occupational therapists.

More recent legislation (Individuals with Disabilities Educational Improvement Act [IDEIA] and NCLB) has focused further attention on student achievement and thus on teaching and learning. Student learning needs, identified by formal and informal data has led to changes in professional development practices in schools. Students receiving special education services are now tested along with their classmates. Individual Education Plan (IEP) team members focus their efforts on increasing the skills of learners with special needs so they can benefit from instruction with their regular peers as much as possible.

Knowing when, where, how, what, and with whom to make adaptations, offer technology, lend information, or teach a specific skill are often crucial elements for the success of students with special needs in accessing the curriculum and participating in the regular program with their peers. Occupational therapists’ knowledge, skills, and abilities need to grow along with the school systems in which they work in order to support special education students in changing educational environments. Therapists contribute to special education students’ learning through motor therapy and by designing instructional

and technological aids to increase student participation in classroom settings. These interventions offer support for accessing the conventional curriculum and completing assignments, positioning of students and learning materials, adaptive equipment, and development of specific skills. Occupational therapists also share information with teachers about how a student's disability might require special materials, environmental adaptations, or delivery of instruction. In one specific scenario, a student who struggles to produce legible handwritten assignments is given training in the use of both an alternative writing device and in keyboarding so that he can complete his work legibly and efficiently. The student's grades rise from C's to A's. In another scenario, a physically disabled student struggling to read is given a slant board to hold her book at an angle that allows her to position her head and eyes to read the print easily and turn pages more quickly. She becomes independent and is able to follow along, reading and answering questions at the same skill level as her peers.

Pressure to advance teaching and learning has led to a compensatory focus on continuing professional education (CPE) in public schools. Provisions exist for satisfying the professional development needs of most educators. However, there is no system for related service providers or other "low incidence" specialists, such as occupational therapists, to access professional development that is focused on their learning needs with content, and learning designs most beneficial to their professional practices.

The itinerant nature of the occupational therapists' practice, the perceived lack of preparation specifically focused on school-based practice, and a non-existent system for defining and addressing professional education needs all contribute to the absence of

relevant continuous professional education opportunities for school-based occupational therapists. Exacerbating the adverse effects of insufficient continuing professional education, occupational therapists who work in schools are a “low incidence” profession compared to the other professionals who work in schools. Their learning content needs, once defined, might be expected to require sufficiently different learning or delivery designs than the norm for other professionals that work in schools. Information from occupational therapists currently employed in school settings is needed to define the content and learning designs necessary to reinforce and sustain continuous learning for school-based occupational therapists to support special education student participation and learning with peers in the regular program. Figure 1 illustrates the continuous professional learning processes and structures needed to improve the school-based OT’s practice for the benefit of students.

Purpose

This study identified the pre-service and continuing professional education needs of occupational therapy school-based practitioners currently working in Minnesota schools. The purpose of this study was to inform pre-service programs, employers of school-based OTs, and continuing professional education providers about specific strengths and needs in school-based occupational therapists’ preparation and on-going learning needs for practice in schools. In addition, occupational therapists’ perceptions about ways in which continuing professional education is provided was discovered.

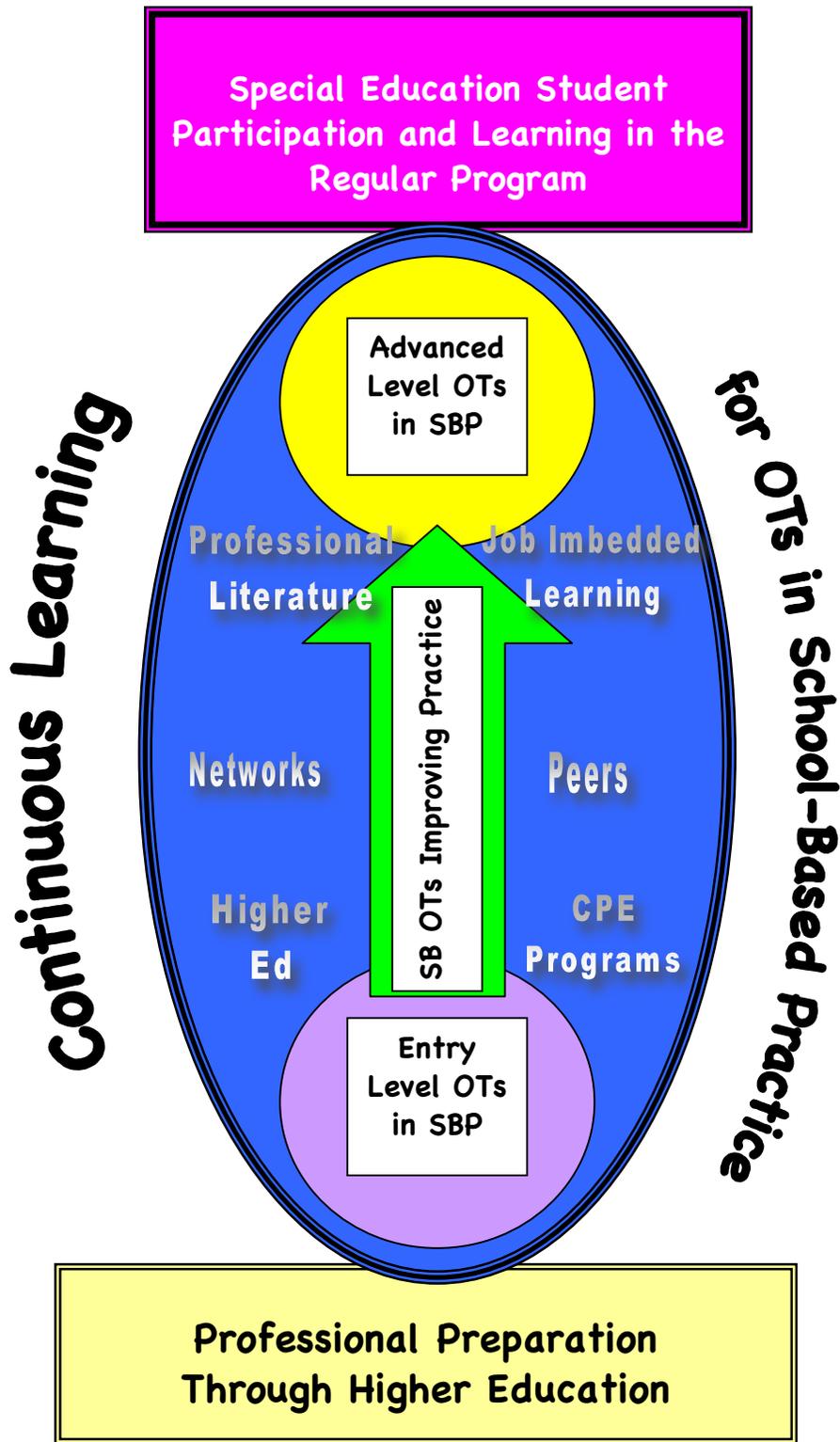


Figure 1: Continuous Professional Education for OTs in SBP

Research Questions

Occupational therapists working in Minnesota schools contribute to student learning through technological support, positioning, adaptive equipment, environmental adaptations, skill development, and sharing information about how disabilities affect learning. Research has shown that occupational therapists who work in school-based settings have learning needs that are not currently being adequately addressed (Brandenburger-Shasby 2005; Rainville, et al., 1996). The learning needs of occupational therapists working in Minnesota schools were the focus of this study. Questions that guided this research include:

1. To what extent and in what areas of school-based practice do Minnesota occupational therapists feel they were prepared to meet the general and differentiated needs of children served in schools?
2. In what ways could continuing professional education meet the needs of Minnesota school-based occupational therapists?
 - a. What general pediatric and general school-based content is needed?
 - b. What specific school-based practice content is needed?
3. In what ways do the learning needs of school-based occupational therapists vary depending on key practice experience and demographic variables?
 - a. How do content needs (delivered through coursework and fieldwork) differ by graduation year?
 - b. How do learning design preferences differ by graduation year?
 - c. How do learning design preferences differ by demographic location?

d. How do barriers to access of CPE differ by demographic (practice) location?

Design

A descriptive research design (Marshall & Rossman, 1999) was used to explore: 1) the perceptions of occupational therapists working in Minnesota schools concerning the adequacy of their pre-service preparation for school-based practice, 2) their general and differentiated continuing professional development content needs, and 3) their perceptions of and preferences for learning designs for continuing professional education for school-based settings.

Definitions

Terms used throughout this study are defined in this section: occupational therapy, occupational therapy practitioner, occupational therapist, registered, certified occupational therapy assistant, entry-level occupational therapist, accredited occupational therapy education program, fieldwork, and professional development.

Occupational therapy is skilled treatment that helps individuals achieve independence in all aspects of their lives. Occupational therapy assists people in developing the "... skills for the job of living" necessary for independent and satisfying lives (AOTA, 2006d). Occupational therapy, as defined by the Individuals with Disabilities Act (IDEA), means:

Services provided by a qualified occupational therapist and includes: 1) improving, developing, or restoring functions impaired or lost through illness, injury, or deprivation, 2) improving ability to perform tasks for independent functioning if functions are impaired or lost, and 3) preventing, through early

intervention, initial or further impairment or loss of function” (Downing, 2004, p. 205).

Occupational therapy practitioners are skilled professionals whose education includes the study of human growth and development with specific emphasis on the social, emotional, and physiological effects of illness and injury. Practitioners must complete supervised clinical internships in a variety of health care settings and pass a national examination. Most states also regulate occupational therapy practice through licensure. This designation refers to both occupational therapist, registered and occupational therapy assistants and does not differentiate between them.

Occupational Therapist, Registered is a therapist who has graduated from an occupational therapy program accredited by the Accreditation Council for Occupational Therapy Education (ACOTE), has successfully completed a period of supervised fieldwork experience, has passed a nationally recognized entry-level examination for occupational therapists, and fulfills state requirements for licensure, certification, or registration. (AOTA, 2005b).

Certified Occupational Therapy Assistant is a therapist who has graduated from an associate- or certificate-level occupational therapy assistant program accredited by ACOTE, has successfully completed a period of supervised fieldwork experience, has passed a nationally recognized entry-level examination for occupational therapy assistants, and fulfills state requirements for licensure, certification, or registration.

Entry-level occupational therapist refers to the individual prepared to begin generalized practice as an occupational therapist, having completed an accredited

occupational therapy educational program and the certification process, and having less than one year of practice (AOTA, 2001).

Accredited occupational therapy education program meets the Standards of the Accreditation Council for Occupational Therapy Education (ACOTE) of the American Occupational Therapy Association (AOTA) and prepares occupational therapists to practice as generalists. These Standards comply with the United States Department of Education (USDE) criteria for recognition of accrediting agencies (ACOTE, 2001).

Fieldwork is part of the educational preparation of the occupational therapist and allows the student to apply knowledge in a practice setting under supervision, promote clinical reasoning and reflective practice, transmit the values and beliefs that enable ethical practice, and develop professionalism and competence as career responsibilities. The goal of Level I Fieldwork is to introduce students to the fieldwork experience and develop a basic comfort level with and understanding of the needs of clients. The goal of Level II Fieldwork is to develop competent, entry-level, generalist occupational therapists (ACOTE, 2001).

Professional development, staff development, continuing education, continuing competence, and continuing professional education are often used interchangeably in the literature. The Council on Continuing Competence and Professional Development of AOTA defines Continuing Competence as " ... a dynamic, multidimensional process in which the professional develops and maintains the knowledge, performance skills, interpersonal abilities, critical reasoning skills, and ethical reasoning skills necessary to perform his or her professional responsibilities" (Hinojosa et al, 2000, p. CE-1). The

National Staff Development Council (NSDC) defines staff development as “... the means by which educators acquire or enhance the knowledge, skills, attitudes, and beliefs necessary to create high levels of learning for all students” and also states that “sustained, intellectually rigorous staff development is essential for everyone who effects student learning” (2001, p. 2). For the purposes of the proposed research, the terms listed above are considered synonymous.

Contributions to Research

Research on the knowledge, skills, and abilities needed for school-based occupational therapy practitioners is plentiful, but a gap exists in the research concerning continuous professional education designs for delivery of professional learning activities for occupational therapists. The literature suggests potentially useful learning designs but the limited quantity of studies is narrow in scope and contains small samples. The literature concerning professional development for occupational therapists in school settings, including Minnesota, is either unavailable or non-existent. The research proposed here will contribute to the knowledge base by:

- Describing the perceived preparedness for school-based occupational therapists working in Minnesota schools.
- Describing the current continuing professional experiences of Minnesota school-based occupational therapists.
- Identifying the content and learning designs needed for the continuing professional education of school-based occupational therapists in Minnesota.

- Proposing components of a framework for continuing professional education for Minnesota school-based occupational therapists that is based on the data obtained in this study.

Summary

Research indicates that occupational therapists have been insufficiently prepared to practice in school-based settings, based on their professional preparation as generalists. School-based practice is considered an advanced practice setting, and requires knowledge, skills, and abilities that are quite different from those required in other settings. Federal legislation (the Individuals with Disabilities Education Act, its most recent update further aligned with No Child Left Behind) provides for occupational therapy services in schools and requires that related service personnel have the content knowledge and skills to serve children with disabilities in accordance with the provisions of Part B of the law (Swinth et al., 2003). Therefore, occupational therapists employed in school-based practice need access to quality professional development to obtain and maintain competence in this practice setting. This study examined the perceived educational preparation and professional development needs (content, contexts, and learning designs) of occupational therapists currently working in Minnesota schools.

CHAPTER 2

Review of the Literature

In a true profession, skills come from a well-developed knowledge base and the knowledge base provides the framework for professional practice and continuing education. Kenneth Ottenbacher, 1990

School settings represent one of the largest areas in which occupational therapists are nationally employed (AOTA, 1996, 2001, 2003e, 2006a, 2010a; McEwen, 2002; NBCOT, 2004a; Swinth et al., 2003). Occupational therapy in schools is a growing area of practice that requires a specialized knowledge base in order to meet the educational goals of students (Chandler, 1995; Jaffee & Epstein, 1992; Powell, 1994; Rapport, 1995; Royeen & Furbush, 1996). “State and local [school] district personnel have long expressed concern ... about OT pre-service preparation for work in schools and early childhood programs” (Swinth et al, p. 4). The culture in which school-based therapists practice is very different from that of hospitals and other health care settings (Mendoza-Smith, 2005).

Occupational therapists are prepared for practice as generalists. Educational programs for occupational therapists must meet the Standards of the Accreditation Council of Occupational Therapy Education (ACOTE), though each program is allowed to design its curriculum to meet program needs. Classroom learning and Level I Fieldwork experiences in a variety of settings lead to a more intensive Level II Fieldwork experience. Level II Fieldwork is full time and for approximately 6 months in at least one setting, though traditionally in two settings, one with clients in physical disabilities settings and the other with clients in mental health settings. The 1998 Standards require

exposure to a variety of clients across the lifespan and a variety of settings (AOTA, 1998a; Johnson, et al., 2006). School-based Level II Fieldwork experiences do not occur in regular practice, but are arranged as a third or extra fieldwork experience for those students who make a special request for it (Martin, personal communication, October 5, 2006).

Concerns have been expressed about the adequacy of a general preparation vs. a specialist preparation for practice, particularly regarding the preparation of school-based practitioners. Though some take the position that the traditional generalist approach is necessary, others profess that specialization is inherent in a profession's development and quality is linked to specialization (Foto, 1996).

School-based occupational therapy is a large, growing, and specialized practice area. Classroom and fieldwork programs may not adequately prepare occupational therapists for work in schools, as schools are a unique workplace and require knowledge and skills beyond entry-level (McEwen, 1995; Punwar & Peloquin, 2000). In addition, therapists may not receive the supports they require through mentoring, supervision or professional development/ continuing education to gain the knowledge and skills necessary for school-based practice (Bergson, 1996; Brandenburger-Shasby, 2005; Rainville, et al., 1996; Wills & Case-Smith, 1996).

Continuing education is a requirement for certification and licensing and is an ethical responsibility for occupational therapists. School-based therapists need the knowledge, skills, and abilities required for school-based practice and may need to acquire them through staff development designed specifically for school-based practice.

Preparation programs following ACOTE Standards very often do not adequately prepare occupational therapists for practice in school settings. Because there is currently no standard program, uniform standards, or quality control standards, practitioners who are newly employed and in some cases inadequately prepared for work in school settings are faced with the task of defining and securing appropriate professional education activities. Continuing education programs specific to occupational therapists in school-based practice are limited both in frequency and availability and may not be delivered in formats or with processes perceived to be most effective for this area of practice.

This review of the literature is focused on professional development practices related to school-based occupational therapists. The proposed study will inquire about such practices for occupational therapists working in Minnesota schools. The first section of this chapter will provide an overview of the professional preparation of the occupational therapist, including the policies and practices guiding education and licensing. Included in this section is a description of school-based occupational therapy practice, provided for by federal statute and described in Minnesota guidelines. The second section of this chapter provides a description of the specialized knowledge base required for school-based occupational therapy practice. The third and final section is focused on the professional development of occupational therapists and then, more specifically, on the professional development of school-based therapists, including regulatory requirements and practices.

The literature review contained in this paper was conducted by examining research studies in the fields of occupational therapy, professional development, and

school-based practice. Searches were conducted for peer-reviewed works through Education Full Text, ERIC, Medline, PubMed, and the AOTA Wilma L. West Library databases. In addition, the AOTA, *Advance* (an OT weekly newspaper), *OT Practice* (a bi-monthly magazine), Minnesota Department of Education, and the Minnesota Department of Health and Human Services websites provided important background information. Some authors did not conduct original research but are included in the review of literature as they are well known in the occupational therapy literature, or have synthesized research, or because their editorial comments provided context.

Studies are reviewed categorically, beginning with the context literature, and then the literature on knowledge, skills, and abilities for school-based occupational therapy practitioners. These sections are followed by a description of the limited research on professional development for occupational therapists including the limited research for those in school-based practice.

Professional Preparation of the Occupational Therapist

Policies and Practices

Policies and practices guiding the preparation of the occupational therapy practitioner come from three identified sources: the American Occupational Therapy Association (AOTA), the Accreditation Council on Occupational Therapy Education (ACOTE), and the National Board for Certification in Occupational Therapy (NBCOT). The AOTA has broad influence over the education of the occupational therapist through its position papers, the ACOTE Standards define and accredit education programs, and the NBCOT certifies occupational therapists to practice.

Guidelines from the American Occupational Therapy Association (AOTA).

The American Occupational Therapy Association (AOTA) is the national association of approximately 35,000 OT professionals in the United States. The AOTA supports occupational therapy through advocacy, standard setting, education, and research on behalf of its members and the public (AOTA, 2006a). The AOTA official documents, including the *Philosophy of Professional Education, Standards for an Accredited Educational Program for the Occupational Therapist, The Purpose and Value of Occupational Therapy Fieldwork Education, Core Values and Attitudes of Occupational Therapy Practice, Guide to Practice, Practice Framework, and Code of Ethics*, guide the educational program of the occupational therapist (AOTA, 1999a, 1999c, 2002a, 2003c, 2003d, 2005a, 2005b, 2006b). The Accreditation Council for Occupational Therapy Education (ACOTE) of the AOTA accredits education programs for the occupational therapist (AOTA, 2006a).

AOTA's *Code of Ethics* and *Core Values and Attitudes of Occupational Therapy Practice* are public statements that define the set of principles that apply to occupational therapists at all levels of practice. These documents contain basic principles of professional conduct and competency on which occupational therapy is grounded. The *Philosophy of Professional Education* is a statement about the importance of occupational therapy education, which "promotes competence through entry-level, post-professional, continuing education, and distance education" (AOTA, 2003c, p. 640). The *Standards for an Accredited Educational Program for the Occupational Therapist* provides both general standards and curriculum standards (in the form of outcome

measures) to both guide and certify the professional preparation programs for the occupational therapy practitioner. Though fieldwork standards are included above, a separate document, *Purpose and Value of Fieldwork Education*, highlights the importance of this educational phase, stating, “fieldwork emphasizes practicing and applying knowledge through supervised intervention and professional role modeling” (AOTA, 2003d, p. 644). The *Guide to Practice* and *Practice Framework* provide an overview or scope of occupational therapy practice and an outline and description of the profession’s focus intended for both occupational therapy professionals and external audiences. Both are used in occupational therapy education programs.

Accreditation Council for Occupational Therapy Education (ACOTE). The ACOTE Standards define a general education program, preparing occupational therapists to work in any service setting, rather than specific expertise for a particular setting, such as schools (Swinth et al., 2003). The ACOTE Standards (1998) state “a contemporary entry-level occupational therapist must be educated as a generalist, with a broad exposure to the delivery models and systems utilized in settings where occupational therapy is practiced and where it is emerging as a service” (AOTA, 1998a, p. 866). In 2006 the standards were changed to reflect the new requirement that occupational therapy programs graduate master’s level therapists. The words “a graduate from an ACOTE-accredited master’s-degree-level occupational therapy program” (AOTA 2006e, p. 1) replaced “a contemporary entry-level occupational therapist” (AOTA, 1998b, p.1), while continuing to require a generalist preparation. “Program content shall be based on a broad foundation in the liberal arts and sciences” (1998a, p. 866) was changed to

necessitate a graduate to have acquired "... a breadth and depth of knowledge in the arts and sciences ..." (2006e, p. 1). The curriculum standards require knowledge and understanding of human development "throughout the life span" (Standard B.1.5, AOTA 1998b, 2006e). They require only an understanding of systems and service delivery contexts in "education," but at the same time call for the "personal and professional abilities and competencies as they relate to job responsibilities" (Standard B.9.6). If these two statements are true, the entry-level practitioner is expected to have the competencies for school-based practice upon completion of their pre-service education program (AOTA, 1998a, 1998b, 2006e).

In the preparation of occupational therapists, classroom studies and experiences are augmented by fieldwork experiences. Fieldwork experiences occur in two traditional formats. The goal of Level I Fieldwork is exposure to a variety of practice settings and most often involves an observation of clients and interview of the therapist. The goal of Level II Fieldwork is to develop competency for entry-level generalist practice. Fieldwork is required in at least one setting for 24 weeks and may be part-time (AOTA, 1998b). Traditionally, students complete Level II Fieldwork in one setting with clients with physical disability needs, another setting with mental health needs, and a third, if chosen, in pediatrics or a specialty setting (Hamlin, Macrae & DeBrakeleer, 1995; Opacich, 1995). The 1998 Standards require exposure to "... a variety of clients across the lifespan and to a variety of settings" (AOTA, 1999c; Johnson, et al., 2006). Most fieldwork programs do not require exposure to pediatric clients (Harris & Alley, 2000). More recently, "programs have started to use a medical model/ social model dichotomy

or an institutional/ community dichotomy” for determining fieldwork sites and experiences (Swinth et al., 2003, p. 16). The Practice Metrics Survey (NBCOT, 2004b) indicates that the majority of occupational therapists completed their Level II Fieldwork in rehabilitation hospitals and outpatient and acute-care hospital settings.

Concerns have been expressed, particularly regarding the preparation of school-based practitioners, about the adequacy of a general preparation vs. a specialist preparation for practice. A literature review on the topic reveals the following positions: 1) a holistic approach has been the tradition; specialization will change the purpose and focus of the profession, 2) to guarantee high quality care, specialization is necessary. Knowledge and skills specific to individual populations are required to provide quality service. It is difficult for one person to gain the knowledge and skills for all ages and conditions, and 3) specialization is inherent in any profession as it develops (Foto, 1996). Though there are advantages to a holistic, traditional generalist preparation, it appears that the field of occupational therapy will confront the need for specialization as increased knowledge and skills are required for quality service for particular populations. Given the opinions and studies contained in the occupational therapy literature, school-based practice is one such area.

The National Board for Certification in Occupational Therapy (NBCOT). A relatively recent dimension of occupational therapy’s development as a profession includes the credentialing of occupational therapy practitioners by an organization other than the nationally recognized professional association, the American Occupational Therapy Association (AOTA). The National Board for Certification in Occupational

Therapy (NBCOT) is a not-for-profit, private credentialing agency that certifies occupational therapy practitioners. NBCOT develops, administers, and periodically reviews the certification process “... that reflects current standards of competent practice in occupational therapy” (AOTA, 2006a, p. 4). State regulatory boards use the examination as one of the criteria for licensure and NBCOT uses the examination as one of the criteria for initial NBCOT certification.

State Licensure: Minnesota Department of Health (MDH). In Minnesota, as in other states, occupational therapists are required to obtain a license to practice. Licensure requires a diploma from an accredited occupational therapy education program, completion of the required fieldwork, evidence of passing the NBCOT certification examination, completion of the required documentation and payment of a state fee (MDH, 2005). Though some states such as Washington require an additional certification for school-based practice, Minnesota does not currently require such certification.

The professional preparation of the occupational therapy practitioner, guided by the American Occupational Therapy Association (AOTA), the Accreditation Council of Occupational Therapy Education (ACOTE), the National Board for Certification in Occupational Therapy (NBCOT) and state licensure, appears to recognize the diversity of practice arenas. Lacking, however, are policy and practices that specifically charge them with the responsibility for delineating and then specifically measuring the knowledge and skills necessary for preparation to practice in those areas.

Policies and Guidelines for School-Based Occupational Therapy

School-based occupational therapy is provided for by federal legislation and is further defined by the state practice guidelines. As mentioned previously, school based-practice is a unique practice setting for occupational therapists. The policies and procedures that provide for and regulate practice in schools are quite different from those employed in medical and rehabilitation settings (Sarracino & Hanft, 1996).

Federal regulations guiding practice. Occupational therapy in schools emerged as part of the history of equality and civil rights legislation that began in the 1930s. Federal laws established public education as a right of all children, which was followed by legal supports for racial desegregation and the rights of students with disabilities. Statutes providing special education services to children with disabilities were common, but inconsistent across states in the early 1970s. When the Education of the Handicapped Act (Public Law 94-142) was enacted in 1975, more than half of all children with disabilities were not receiving appropriate services and many were excluded from the public school system (Case-Smith, 2005).

The specialty area of school-based occupational therapy was relatively unknown before the enactment of PL 94-142 in 1975. School practice occurred primarily in special residential settings for children challenged with orthopedic, hearing, vision, and mental impairments. The institutions were usually organized around a medical model focused on curing or ameliorating deficits. Occupational therapists brought medically based practice approaches, reflective of their educational program, to school settings from hospitals and rehabilitation settings. This medical orientation of fixing deficits tended to interfere with

rather than support educational processes and was gradually replaced with new approaches focused on assisting students to function successfully in the school environment. The new roles and practices for school-based occupational therapists have evolved in the decades since the passage of PL 94-142 of 1975 and its updates, most commonly known as the Individuals with Disabilities Education Act (IDEA) of 1997. Contemporary occupational therapists collaborate with families, teachers, medical and support staff. Services are often provided in classroom settings and interventions are educationally relevant (AOTA, 2003b; Rourke, 1996; Swinth et al., 2003).

Minnesota Guidelines for School-Based Practice (SBP). *Occupational Therapy and Physical Therapy in Educational Settings: A Manual for Minnesota Practitioners* (2002), prepared by the Minnesota Department of Children, Families and Learning (MDCFL), contains general guidelines about the practice of occupational and physical therapy in Minnesota Schools. The manual outlines the laws and regulations that define occupational therapy (and physical therapy) school-based practice, provides an overview of services for students in Minnesota, and describes the practice requirements and roles of occupational and physical therapy for students in special education. It is a resource and procedural manual that includes resources for both practitioners and administrators.

The manual refers to but does not list or define the knowledge, skills and abilities required for the school-based practice setting nor does it describe how such capacities might be acquired or strengthened. Professional development or continuing education is referred to only tangentially, in the following ways: “it is expected that therapists will continue learning after completing their entry-level professional education program;”

“therapists will continue to advance their learning;” and “evaluation of knowledge, skills, strengths and weaknesses should be done on a routine basis to ensure increasing competence” (MDCFL, 2002, p. 5). In summary the manual states,

Therapists bring a unique perspective to the education of children. They have knowledge and understanding of the brain, how children learn and organize information to perform actions, tasks, and activities. Therapists in the educational setting must address the functional needs of children that are educationally relevant. The focus of education therapy service is not on fixing the child but adapting the task, expectations, and environment and facilitating successful performance of the child’s activities in their multiple roles (MDCFL, 2002, p. 9).

The federal policy, IDEA (PL 94-142) of 1975 and its updates, provide for school-based occupational therapy. Occupational therapists initially brought medically based approaches to the school setting, when functionally based, educationally relevant approaches were needed. Minnesota and other states, responsible for enacting the federal law, provide only general guidelines for occupational therapy practice in schools. Knowledge, skills, and abilities needed for practice in schools are not specified, required or provided for.

Occupational Therapists in School-Based Practice:

Knowledge, Skills, and Abilities

Much has been written about occupational therapy practice in school-based settings. The literature contains a wide variety of information about the knowledge, skills,

and attitudes required for school-based practice. Following identification and presentation of the studies and related findings, a summary of competencies concludes this section.

Literature and Research

As emphasized so far in this paper, occupational therapists participate in a pre-service educational program that prepares them as generalists to work in any setting and that may not provide them with the information needed to be successful in educational settings (Swinth et al., 2003). Occupational therapy practitioners need specialized knowledge and skills to provide effective supervision and consultation services for teachers, parents, and each other (Jaffe & Epstein, 1992). It is possible that many occupational therapists who will eventually work in school settings may not have been taught about this practice setting. Many occupational therapists who practice in schools lack a formal knowledge base and consequently are unable to adequately serve students in this setting (Harris & Alley, 2000).

Though much has been written about occupational therapy in school settings, the literature on competencies is varied in quality and provided by a variety of sources. Research with small samples, regional studies, statements on competencies, and two national studies are useful in identifying the knowledge, skills, and attitudes needed for school-based practitioners. There appears to be a common view of the competencies considered to be required for practice in schools, but the relationship between such stated competencies and actual practice and whether or not a school therapist with these competencies is a competent school therapist has yet to be established (Swinth et al., 2003).

The American Occupational Therapy Association (AOTA) completed a large-scale, national school-based practice survey in 1993. The results, reported by Chandler (1994, 1995), emphasized the need for school-based practitioners to understand the legal, administrative, service provision and practice issues unique to a school setting. Knowledge of interviewing techniques, classroom observation skills, evaluation, and documentation skills as well as knowledge in the use of equipment and assistive technology were identified as essential for practice in schools.

Powell (1994) surveyed 136 occupational therapists in Michigan about their practice in schools to gather information for decision-making on curricular content for OT preparation programs. She reported that the knowledge and skills needed by occupational therapists in school-based practice had changed from a previous nationwide survey reported by Brown (1989). In the study reported by Brown, 322 therapists ranked the following items as most important: knowledge and skills related to gross and fine motor function, sensori-motor intervention, activities of daily living, consultation, parent training, and adapting materials. More recently, in Powell's study, the following were ranked most highly: assessment, neurophysiological treatment approaches, differentiation of educational versus medical model of service, program planning, feeding, and legal matters. Other skills identified as important to school-based practice included evaluation, communicating with team members, working with educational personnel, documenting, group decision-making, consulting, monitoring in classrooms, and providing in-services. The differences in knowledge and skill areas defined as most important in Brown's study

compared to Powell's study reflect the increasing complexity of the school-based practice setting.

Emphasizing further the interpersonal and collaborative nature of school-based practice, studies by Dunn & Westman (1995) and Drummond (1996) offer more specificity on the topics. Skills required by the school-based practitioner include teacher-therapist collaboration, the use of knowledge and skills specific to occupational therapy to support other providers who have daily contact with a student, adapting tasks and materials and embedding therapeutic expertise into classroom routine. Consultation skills and the ability to use a combination of therapeutic and educational strategies in classroom inclusion settings are also required (Dunn & Westman, 1995; Drummond, 1996).

Royeen and Furbush (1996) completed a research pilot study of Midwest occupational therapists entering the workforce or currently in school-based practice. The findings of this small convenience sample of 203 therapists indicated that a school-based therapist needs good interpersonal skills and knowledge of the following: laws governing practice and evaluations, theory, and frames of reference for educationally relevant practice.

A larger study of special education administrators and occupational therapy practitioners yielded knowledge and skill areas in which each group felt additional therapist supervision and training was needed (Rainville, et al., 1996). Administrators ranked the areas of consultation to parents and teachers and issues around service delivery highest on their list of needs for occupational therapy practitioners. The

therapists identified those same two areas and also knowledge of evaluation tools as areas for further training.

A study of university students by Harris and Alley in 1997 revealed “only a minority of students believed that the role of an occupational therapist in the schools is clearly defined” (p. 193). Students who completed their Level I fieldwork were more likely to believe that the role was clear compared to those who had not. The limited amount of in-service instruction and supervision available to occupational therapists practicing in public schools suggests that the area of school-based practice needs further support (Dunn, 1988; Harris & Alley, 2000; Rainville et al., 1996). The AOTA *Guide for Supervision of OT Personnel* recommends direct, daily contact at the work site for entry-level OT practitioners (AOTA, 1999b).

Golubock and Chandler (1998) identified 15 overarching competencies and 128 additional competencies for school-based practitioners in rural settings. These included the laws, regulations, procedures and evaluation identified in other studies, but expanded the range of competencies to include knowledge of the educational system, process skills such as consensual decision-making, facilitation of transitions, planning, and implementing and modifying interventions along a continuum.

Recognizing that school systems are unique practice situations, the AOTA articulated 15 core competencies for school-based occupational therapists (Chandler, 1998). Many of the competencies are similar to those needed in other practice areas with the exception of the following: consensual decision-making and communication skills, understanding of schools as human service organizations uniquely focused on academic

accountability, activity analysis in the classroom setting, knowledge of others' roles and responsibilities, and the ability to articulate information about occupational therapy in the school setting.

In response to the need to develop a measure of the relevant knowledge base required for occupational therapists practicing in schools, two instruments were piloted with small groups of college students in New Mexico. Knowledge of Occupational Therapy in the Schools (KNOTS), constructed with items from the National Board for Certification in Occupational Therapy (from 1996) and by needs assessments established by Powell (1994) and Royeen and Furbush (1996), was found to have good content, construct, and criterion-referenced validity, though test-retest validity was not established. The Self-Efficacy in School Settings (SESS) was found to have weaker validity, probably due to small sample size, and its usefulness was questioned (Harris & Alley, 2000). Though knowledge and skill areas were not specifically stated, it seems important to note that this study attempted to quantify, through research, the knowledge base described as necessary for school-based practitioners. Further study using both tools was recommended.

Teaming and communication skills, including transferring knowledge (teaching) about occupational therapy practice and interventions are important areas of competence for practitioners in schools. The context of schools as public institutions and the federal laws, state and local rules and regulations affecting practice and delivery of services are also important knowledge areas. Basic to school-based practice is the knowledge of the growth and development of children and of a broad range of developmental disorders and

disabilities, as well as treatment approaches and knowledge of the educational curriculum for reinforcement of developing student skills and blending of therapeutic programs (Punwar & Peloquin, 2000).

A survey of 406 occupational therapy practitioners practicing in schools in southwestern states sought information concerning evaluations used by therapists in schools (Burtner, McMain & Crowe, 2002). Additional information concerning perceptions of their professional preparation for practice was included. A majority of respondents indicated that they did not feel sufficiently prepared for practice in school settings and also that occupational therapy students should be familiar with assessments identified in the study as part of their professional preparation.

NBCOT conducted a *Practice Analysis* in 2003 to examine entry-level therapists' practice (the first three years). It included a literature review, delineation of entry-level practice by a panel of experts and a survey of entry-level practitioners. Though this was a study whose goal was to describe entry-level practice, the most typical practice area for the majority of occupational therapists in the study was schools or school systems. The knowledge and skill areas reported as most frequently used were:

- activity and environmental modifications;
- agency policies and procedures;
- applicable codes of conduct and federal and state laws, rules and regulations;
- client-centered approaches;
- clinical reasoning process;
- components of an intervention plan;

- documentation methods and techniques;
- expected outcomes of interventions;
- frequency and duration of intervention needed to reach goals;
- impact of impairment, disability, condition on development and occupational performance;
- physical, social, and psychological reactions requiring modification of the intervention;
- professional guidelines, terminology, and standards of practice; and
- safe use of activities and/ or related equipment (NBCOT, 2004a)

The Association for the Severely Handicapped (TASH) adopted a resolution on the preparation of related service personnel (2003). Guiding principles for the preparation of school-based personnel include: establishing positive, respectful, culturally-responsive relationships with a diverse population of people with disabilities and their families; collaboration with students, families and teachers; functional assessments; outcomes oriented interventions; collaborative planning; learner-centered interventions; services and supports that prepare students for meaningful participation in integrated environments; and involvement in professional development including best practices.

The American Occupational Therapy Association (AOTA) produced a document that described the occupational therapy practitioner's role in school-based programs. Knowledge and skills areas include: the ability to identify the skills of the student, the demands of the environment, and appropriate solutions for intervention; interviewing team, family members, and students; conducting standardized testing; collaborating with

Individual Education Plan (IEP) team members regarding the need for occupational therapy services; measuring outcomes; and training assistants and other professionals (AOTA, 2004b).

Citing the lack of standards or requirements for practice in the school based setting a large scale descriptive research study was conducted to discover the entry level and continuing education needs of school-based therapists. Brandenburger-Shasby (2000) identified 20 knowledge and skill areas from the literature and her 15 years experience in school based practice. This study of 450 therapists currently working in school-based settings across the United States offers the most complete and current list of competencies required for school based practitioners. The list includes:

- understanding of federal/state regulations;
- role of occupational therapy;
- documentation requirements;
- evaluation approaches;
- service delivery models;
- team models;
- intervention techniques;
- writing present levels of performance to reflect student's ability within the curriculum;
- writing individualized educational program goals;
- evaluation for assistive technology;
- parent participation in eligibility/ placement;

- provision of services in inclusion and natural environments;
- interpreting disabilities to educators;
- adapting equipment/environments;
- developing home/school programs;
- observation skills;
- consultation skills;
- interviewing clients/caregivers;
- collaboration; and
- transitioning from early intervention to preschool/ school to community

Stating, “change within the American educational system is an ongoing process,”

Chandler (2005, p. 1) noted that additional knowledge is needed by occupational therapists to reflect these changing practices. Knowledge of mission, culture and philosophies of public education, knowledge and use of evidence-based interventions to support students in their educational role, a basic understanding of teaching and learning theories, and an understanding of the language, theories and frames of reference of other professionals to enhance communication are important to work in the school-based context (Block & Chandler, 2005). The increased emphasis on literacy and accountability for student achievement requires that school-based practitioners understand the impact of literacy on a student’s occupational roles in school (Bell & Swinth, 2005).

Summary

The research on competencies reviewed in the previous section included small samples, regional studies, statements on competencies, and two national studies, one of

which focused specifically on identifying the knowledge, skills and attitudes needed for school-based practitioners. Based on this research, the following eight practice domains are identified: context and purpose of school-based practice, theories and frames of reference, laws and regulations, school-age students with disabilities, assessments, IEPs and related documents, appropriate interventions, and personal and interpersonal skills. Table 1 lists these domains with related sub-headings. Located in Appendix A is the same information, along with supporting citations for each domain.

Continuing Education of Occupational Therapists

Continuing education is guided by the AOTA and required by most states for licensure renewal. Minnesota policy requires formal activities that are part of an organized program of learning and documentation or verification of attendance. The literature provides general concerns, information, and a few studies on content, context, and processes used in continuing education. However, very little useful information exists on continuing education for school-based practitioners.

Continuing Education Requirements

Guidance for continuing education is provided by the American Occupational Therapy Association (AOTA), through its *Standards for Continuing Competence, Code of Ethics*, courses, and voluntary certifications. Specific requirements for continuing education are provided by the Minnesota Department of Health (MDH) for Minnesota

Table 1

Knowledge, Skills, and Practice Domains for School-Based Occupational Therapists

Defining the context and purpose of school-based practice

- Defining and describing school-based practice
- Understanding schools

Describing theories and frames of reference used in school-based practice

Understanding laws and regulations guiding school-based practice

- Individuals with Disabilities Education Act (IDEA) of 1997/ Individuals with Disabilities Educational Improvement Act (IDEIA) of 2004
- Section 504 of the Rehabilitation Act of 1973
- Americans with Disabilities Act (ADA) of 1990
- No Child Left Behind (NCLB) Act of 2001

Understanding school-age students with disabilities

- Growth and development of children
- Student occupations
- Medical diagnoses
- Educational labels
- Cultural competence

Conducting assessments of student performance

- Appropriate assessment tools
- Observation
- Interviews

Writing Individual Education Plans (IEPs) and related documentation

- Present levels of performance
- Goals
- Service delivery
- Documentation

Designing and providing appropriate interventions

- Educational relevance
- Best practice; evidence based practice
- Equipment and assistive technology
- Transitions

Demonstrating effective personal and interpersonal skills

- Personal skills (e.g., administrative, organizational, supervision/ mentoring, delineating roles, flexibility)
 - Interpersonal skills (e.g., consultation, communicating effectively, teaming/ collaboration, teaching)
-

occupational therapists and the National Board for Certification in Occupational Therapy (NBCOT), for those who continue to use the certification mark OTR^{®2}.

The AOTA promotes the continuing competence of occupational therapists by developing professional standards, providing members with professional development tools and quality continuing education, promoting state licensure and continuing education requirements, and developing model continuing competence guidelines as a resource for state regulatory boards (AOTA, 2000, 2003a, 2006a). The AOTA *Standards for Continuing Competence* has been designed to assist OTs "... to assess, maintain, and document competence in all the roles that they assume" (AOTA, 1999d, p. 599). The Standards are identified as Knowledge, Critical Reasoning, Interpersonal Abilities, Performance Skills, and Ethical Reasoning. Many of the standards refer to the need for therapists to demonstrate knowledge and skills relevant to the primary role and population(s) served. The Knowledge Standard and Performance Skills Standard are most pertinent to this study and include such statements as "... understanding of current literature related to primary roles and the ... population served" ... "knowledge of legislative, legal, and regulatory issues related to practice and ... roles" "... demonstrate the expertise, aptitudes, proficiencies, and abilities to competently fulfill their roles" (AOTA, 1999d, p. 599).

² The NBCOT is the not-for-profit credentialing agency responsible for policies related to the certification of occupational therapy personnel. Every three years after initial certification, the Certification Renewal Program requires professional development activities to maintain continuing competence, allowing the practitioner to continue to use the trademark OTR[®].

Principle 4 of AOTA's *Occupational Therapy Code of Ethics* (2005) guides practitioners in maintaining high standards of competence. "Occupational therapy personnel shall achieve and continually maintain high standards of competence" (AOTA, 2005a, p. 640). They shall "take responsibility for maintaining and documenting competence in practice, education, and research by participating in professional development and educational activities, be competent in all topic areas in which they provide instruction to consumers, peers, and/or students, and critically examine available evidence so they may perform their duties on the basis of current information" (AOTA, p. 640).

AOTA provides on-line courses, workshops, an annual conference, self-paced clinical courses, and continuing education articles. The Professional Development Tool (PDT) helps practitioners identify areas of knowledge, training, or experience for further continuing education. Voluntary certifications are available in a number of areas, including Environmental Modification and Low Vision (Specialty Certifications) and Driving and Community Mobility; Feeding, Eating, and Swallowing; Mental Health; Gerontology; Physical Rehabilitation; and Pediatrics (Board Certifications) (Moyers, 2006).

At the state level, the Minnesota Department of Health (MDH) requires that licenses be renewed every two years. "An occupational therapist applying for re-licensure must have completed a minimum of 24 contact hours of continuing education in the two years preceding licensure renewal." Activities that qualify for continuing education contact hours include attending annual conferences, workshops, panel discussions, in-

service training, seminars, symposiums, and college and university courses, participating in home study courses, teaching continuing education courses, and supervising occupational therapy students. Continuing education activities must meet the standards of an organized program of learning, be reasonably expected to advance the knowledge and skills of the practitioner, pertain to subjects that directly relate to the practice of occupational therapy, and be conducted by an AOTA approved sponsor or experts in the subject matter with a mechanism for verification (Minnesota Statutes, Unofficial Version, 2005).

The National Board for Certification in Occupational Therapy, Inc. (NBCOT) administers the entry-level certification examination that is used by states as one of the criteria for licensure. In addition, NBCOT certifies individuals as Occupational Therapist Registered OTR[®] (OTR). Maintaining NBCOT certification entitles an individual to continued use of the certification mark OTR and requires the completion of professional development activities. Eighteen or half of the Professional Development Units (PDUs) required in a 3-year renewal cycle must be directly related to the delivery of occupational therapy services and the remaining PDUs may relate to a therapist's current professional role (AOTA, 2006a; NBCOT, 2004a).

Research

Beyond credentialing for occupational therapists, continuing education can be better understood by examining the forces driving continuing competence and the perceived value of current continuing education activities. Studies on content, context, and processes for occupational therapy practitioners and content for school-based

therapists are reviewed, but the reality is that occupational therapists currently lack standards beyond initial certification.

Continuing education in occupational therapy. The occupational therapy literature contains opinion pieces and reviews of literature, but has few research studies on professional development, staff development, continuing education, or continuing competence. There is even less information about processes used in the delivery of professional development activities, and no information was found about evaluations of learning during or following professional development.

The limited literature that does exist indicates that the perceived value of continuing education among some occupational therapists is debatable. In one study, attitudes toward continuing education indicated practitioners did not believe that competence and client performance outcomes could be linked because of the inability to control client and delivery system variables (Fawcett and Strickland, 1998). Participants also questioned the relationship between scholarly research and continuing competence. Variation in quantity (required for licensure), type (formal vs. informal), and measurement (of impact) make conclusions about the findings uncertain. In general, however, both formal and informal learning are acknowledged as important. Active learning in the work situation, operationalized knowledge from workshops, mentoring, videotaping and interviews, professional conversations, and observation of skilled clinicians are considered important or effective in continuing education (Andersen, 2001; Carpenito, 1991b; Grossman, 1998; Slater & Cohn, 1991).

A Study of Professions was conducted in 1997 by the American Occupational Therapy Association (AOTA). Interviews of leaders and stakeholders in thirteen regulated health care professions³ (including occupational therapy) and extensive literature and document reviews were used to examine continuing competence, among other topics. The regulated health professions share similar concerns and challenges in the area of continuing professional education. Grossman (1998) explains that the forces driving continuing competence are: 1) a national report on healthcare workforce regulations that recommended the development, implementation, and evaluation of continuing competency requirements by states, 2) the regulatory system and collective action in some states regarding standards of performance, 3) managed care, and 4) the professions' desire to be proactive and to maintain autonomy. She notes that defining and evaluating competence is not an easy task. After initial certification or licensure, for which most professionals must complete an accredited educational program and pass an examination to assess general knowledge, there are no standard educational programs, uniform standards, or quality control standards. Regulatory agencies operate reactively by disciplinary action when practitioners do not meet ethical and practice standards rather than proactively, through correction, feedback, and counseling when standards are not met (Grossman, 1998).

Currently, professional competence is most often validated through participation in continuing education activities, though the literature suggests that this does not

³ Regulated health care professions refers to chiropractic, dentistry, dietetics, nursing, occupational therapy, optometry, pharmacy, physical therapy, podiatry, psychology, speech-language pathology and audiology, social work, and veterinary medicine.

guarantee competence (Umble & Cervero, 1996). The licensee is only required to validate attendance at staff development. There is no mechanism to demonstrate whether the information is relevant to the practitioner's work or whether the information has even been understood. Variation among states leads to instances where no mandated continuing education is required for license renewal, as is true for occupational and physical therapy. Currently, states do not have specific mandates for continuing competence other than continuing education requirements. Two of the professions included in the *Study of Professions*, dietetics and nursing, are in the process of developing comprehensive systems to assess the continuing competence of all practitioners (Grossman, 1998).

Youngstrom (1998) wrote about the concepts of competency and practice from the practitioner's role, as it related to documents produced by AOTA with backing from the literature. The knowledge that supports practice is constantly changing and growing at a fast pace. It is increasing in complexity as well. The rapid growth of information points to the need for continuous learning and updating (Dubin, 1990). Workplace factors that affect competence include: physical location, social environment, service system culture and contextual features, practitioner's expectations and attitudes, focus of practice and intervention approaches, clients, policies, and procedures. In the medical/rehabilitation service delivery model, the client is the recipient of care from the primary expert. In the consumer/ community service delivery model, the empowered client collaborates with caregivers to improve independent living and quality of life. In the education delivery system, the interdisciplinary team shares decision-making through

partnering for successful school performance of each student. When practitioners move from one service delivery system or context to another, competencies of the new system need to be recognized and learned. Professionals are responsible to maintain their abilities and grow in knowledge and skills as their practice changes and their profession grows. However, competencies that may develop naturally within the context of daily work cannot be used to accurately assess the level of competence or target areas for development without time given to self-evaluation and reflection (Youngstrom, 1998).

NBCOT's 1998 and 2003 *Practice Analyses*, national studies of the professional practice of occupational therapy, provide data for the national certification examination with implications for competency. Ninety-six knowledge and skill statements were supported at least at the "moderately critical" level and could be used for self-evaluation. Professional organizations could use the data to plan continuing education activities (Dunn, Winnie & Cada, 1998; NBCOT, 2004a).

NBCOT's 2003 *Practice Analysis* asked respondents about professional development activities undertaken since their initial certification. Occupational therapist respondents reported spending their staff development time focused on the following: specialty clinical practice 43%, management of staff 20%, administrative/ business 15%, research 10%, and other 12%. Professional development interests included interventions, evaluations, assistive technology, low vision, and administrative/ management.

Slater and Cohn (1991) integrated findings from a literature review of components for successful staff development programs, a two-year study of occupational therapists' practice and Dreyfus and Dreyfus's Model of Skill Acquisition to yield a

proposed design of an effective staff development program that influences professional growth. They identified components of a successful staff development program from the management literature: 1) use of the work itself to stimulate and reinforce professional growth and development, 2) use of role models or mentors, and 3) attendance at conferences, workshops, or other forms of continuing education, if the resulting knowledge is operationalized. Next, they reviewed a two-year study analyzing practitioners' clinical reasoning processes through videotaping and interviews, comparing novice and expert clinicians. They used the five stages of skill acquisition (novice, advanced beginner, competent, proficient, and expert) to describe the reasoning skills in the practices of clinicians at each of the stages. Finally, they proposed a design for effective staff development using the continuum of a professional's career, from novice to expert using case stories, and implemented the process in a hospital setting in Boston.

For their study, Slater and Cohn (1991) integrated the basic elements of practice analysis (role modeling, peer learning, provision of immediate feedback, and the creation of a climate in which the evaluation of ideas are rewarded) into departmental meetings. Case stories were created around the process of therapy. Some of these stories involved reports of constant revision of therapy over time or of changes in the patient and the results. Videotapes and leading questions guided group dialogue surrounding the sessions. Staff with all levels of experience engaged in this process-oriented case-study practice analysis. The study group format, including leading questions to guide the group dialogue, was considered effective because participants at all levels of experience expressed changes in their thinking and approach to practice. These changes included

increased personal insight in responses to clients, increased ability to engage in reflective practice, expanded approaches to analyzing and labeling observation, and increased ability to hypothesize about outcomes. Unexpected outcomes included acknowledgement of the complexity of practice, validation of professional identity, renewed interest, increased group cohesiveness and improved department morale.

The authors concluded “ongoing reflection on practice in the work environment can help experienced clinicians serve as role models and mentors for novice therapists” (Slater & Cohn, 1991, p. 1043). They recommended replicating essential components of the research study described above for effective staff development, with experienced or lead therapists engaging in and demonstrating a practice analysis initially. It was recommended that departmental personnel could be engaged through videotaping and leading questions, as was done in the study.

NBCOT contracted with an international survey firm to identify issues related to accountability and competence in the area of continuing professional education (Fawcett & Strickland, 1998). Focus group discussions with occupational therapy practitioners produced the following conclusions: 1) participants did not believe that practitioner competence and client performance outcomes could be linked, due to inability to control client and delivery-system variables, 2) participants questioned the relationship between scholarly research and continuing competence, 3) participants valued informal learning with occupational therapy colleagues or professional literature more than interactions with related disciplines, 4) formal learning experiences, such as continuing education experiences, were viewed as important to continuing professional development and

competence, and 5) a great majority (83%) agreed that requiring demonstration of learning from continuing professional education was important. There was no consensus, however, on who should conduct such an evaluation.

More recently, differing opinions have been expressed concerning how occupational therapists and others should maintain competence (Anderson, 2001). One debate concerns mandatory vs. voluntary compliance with standards of continuing competence. With the objective of assuring continuing competence, health care professionals are required in most states to engage in continuing education activities as a condition for re-licensure. Each state determines the types of educational activities that meet the requirements of the mandatory continuing education program. Most only recognize participation in formal educational activities though some also recognize informal learning activities. The literature reports mixed views of formal vs. informal learning. Kerr (1998) notes that in formal education programs, the norm for most mandatory continuing education programs, attendance does not ensure competency. Rarely does the formal activity determine individual needs or help learners apply new skills to the work situation in spite of the fact that the application of skills to improve practice is the goal of the activity (Carpenito, 1991a). Active learning in the work situation, professional conversations and visits with colleagues, the observation of skilled clinicians, and mentoring also maintain competence.

To discover occupational therapy practitioners' perceptions of the impact of professional education on continuing competence, Andersen (2001) conducted a mail survey of 346 Florida therapists in the domains of learning, application, and results.

Outcomes of this exploratory study indicate that informal continuing education activities, in some cases, are perceived to have as effective an impact on continuing competence as formal activities. Formal education activities of more than one day were perceived to have a greater impact than most informal activities, though mentoring, observing skilled practitioners, and on-the-job training were perceived as more effective than formal education activities of less than one day. Low response rate, narrow ranges of scores, and unestablished reliability of the newly developed survey may affect interpretation of this study's results.

After initial occupational therapy certification, there is currently no standard educational program, nor uniform standards or quality control standards for occupational therapists, despite the fact that knowledge and skills that support practice are changing and growing in pace and complexity. Though professionals are responsible to maintain their abilities and grow in knowledge and skills as their practice changes and their profession grows, the current system validates professional competence only by participation in continuing education activities. Most states require formal continuing education, if any continuing education program, for re-licensure, and operate reactively, through sanctions, if the standards are not met. Occupational therapists in general practice as well as school-based therapists are not required to participate in continuing education activities reflective of their practice setting or engage in research-based content or processes.

Continuing education for school-based OTs. “Competencies and continuing education strategies for school-based therapists are identified in the literature, but many

lack a research basis” and no guidelines exist (Brandenburger-Shasby, 2005; Swinth et al., 2003, p. 24). Two national studies and a small study of therapists and administrators in an eastern state identify topics and unanswered questions concerning continuing education for school-based practitioners. These studies are described here.

Knowledge and skill areas for school-based occupational therapists were identified by perceived preparedness at entry level and as continuing education needs (Brandenburger-Shasby, 2005). Though there are currently no guidelines for recommended continuing education topics for the entry years of school-based practice, the researcher identified perceived need in several areas (entry-level needs are included above). Though therapists graduating in earlier years had somewhat greater perceived needs, the general areas of need for all therapists in continuing education are: understanding state and federal regulations, documentation, evaluation, intervention techniques, evaluation for assistive technology, consultation skills, writing IEP goals, inclusion, developing home and classroom programs, and transitioning from early intervention to preschool and school to community.

In a study of 389 special education administrators and school therapists in Massachusetts, survey respondents identified topics for supervision and consultation, indicating a need for continuing education (Rainville, et al., 1996). A majority of administrators (68%) reported that therapists were supervised by school administrators or school personnel other than occupational therapists. Seventy-seven percent of the occupational therapy practitioners indicated a need for specific occupational therapy supervision and consultation. Experience and knowledge, plus the abilities to listen,

communicate, and teach were desired qualities for a supervisor or consultant to possess. Administrators and therapists believed that expert occupational therapy supervision and consultation might improve the quality of therapy services and job satisfaction. Topics that were a high priority for therapists and administrators were organization and management of services; therapists alone identified knowledge and skills in evaluations for students in school settings as a high priority. The authors state that much has been available in traditional continuing educational formats to address these topics. The fact that the respondents were requesting supervision and consultation on these topics might indicate that current professional development practices are "... insufficient to meet the needs of practicing occupational therapists" (Rainville, et al. 1996, p. 730).

In a national study, *Personnel Issues in School-Based Occupational Therapy: Supply and Demand, Preparation, Certification and Licensure*, completed by the U.S. Department of Education, and cited above, Swinth, et al. (2003), summarized the unanswered questions surrounding certification and licensure in school-based occupational therapy. These questions include: 1) what types of continuing education courses and content are needed to support the school-based practitioner? 2) what are the preferences for delivery of continuing education? and 3) what is the value of continuing education and/or specialty certification in improved services in the schools (Swinth, et al., 2003)? In addition, the question of collaboration between occupational therapy programs and state departments of education for pre-service and in-service training was raised.

Professionals are ethically responsible to maintain their abilities and grow in knowledge and skills as their practice changes and their professional grows. Review of the literature on continuing competence for occupational therapists reveals that after initial certification or licensure, no standard educational program, uniform standards, or quality control standards currently exist for the general practitioner. Though professional competence is confirmed through participation in continuing education activities in which attendance must be validated, there appears to be no mechanism to determine whether the information is relevant to the work situation or the information was even understood. One study mentions workplace context as an important factor in developing and maintaining competence. General content for continuing education is suggested from a national study, and effective processes for delivering continuing education activities are narrowly defined.

The literature indicates that continuing education is a requirement of licensure and though there is some debate about its effectiveness, the current national climate concerning regulation of the health care workforce, standards of performance, managed care and professional autonomy indicate that it will continue and may grow in importance. There is recognition and urgency for action because the knowledge that supports practice is changing and growing rapidly in quantity and complexity. The available research outlines the content (knowledge and skill) areas for occupational therapists both in general and school-based practice. Context is recognized as important in one study and implicit in others, particularly as it relates to school-based practice. Potential learning designs include components of practice analysis (role-modeling, peer

learning, immediate feedback), mentoring, videotaping, on-going reflection-on-practice, professional conversations, operationalized knowledge from workshops, and a climate of inquiry.

Despite the lack of guidelines for continuing competence for school-based practitioners, a perceived need has been established in several areas. As for therapists in general practice, context and processes lack substantial definition.

Professional Learning in Minnesota Schools for OTs in SBP

Occupational therapists practicing in Minnesota schools participate in staff development activities along with other professionals who practice in schools. An increase in professional and organizational growth is encouraged through school, team and individual professional development activities.

In Minnesota the legislation guiding staff development is the *Minnesota Staff Development Statute* (See Appendix B). The intent of the legislation is that schools and districts implement a site-based process for both educational goals and staff development opportunities that will best help to meet these goals. Providing teachers and other school district staff with individual and professional organizational growth and development opportunities is intended to support them to provide excellent educational experiences for students, and ultimately helps achieve the fundamental purpose of improving student learning. Recommended in that legislation are elements of effective staff development that include: a focus on research-based strategies; opportunities to improve practice and skills over time; the use of student data as part of daily work; enhancing content knowledge and instructional skills; alignment with state and local academic standards and

the alternative teacher professional pay plan; and the provision of opportunities to foster collaboration, build professional relationships, and mentoring (Minnesota Statutes, 2005).

The literature concerning professional development for occupational therapists in school-based practice in Minnesota schools is either unavailable or non-existent. There is nothing specifically identified or targeted as continuing education topics for occupational therapists working in schools. The expectation that school-based occupational therapists' needs for staff development are addressed as part of the over-all decision-making process in schools is problematic given the current emphasis on academics to the exclusion of other topics that support students in the learning environment.

Conclusions

The percentage of occupational therapists employed in school-based practice has increased since the passage of PL 94-142 and its revisions, so that it is now one of the largest employment areas for the profession (AOTA, 2010a; McEwen, 2002; NBCOT, 2004a). Although the areas of knowledge and skills necessary for practice in the school-based setting are delineated in the literature, studies reveal that the degree to which occupational therapists are prepared to practice in school settings varies. Further, the system of continuing professional education to assure continuous learning and development is problematic in that the requirements are provided for in policies but the system for delivering and measuring its impact are lacking.

In an effort to advance the knowledge of the continuing professional education of school-based practitioners, a study of Minnesota's school-based occupational therapists was proposed. The purpose of this study was to inform pre-service programs, employers

of school-based OTs, and continuing professional education providers about specific strengths and needs in school-based occupational therapists' preparation and on-going learning needs for practice in schools. In addition, occupational therapists' perceptions about ways in which continuing professional education is provided was discovered. Occupational therapists currently employed in Minnesota schools were surveyed. Participants were solicited through an e-mail sent to all directors of special education listed on the Minnesota Department of Education website. The directors were asked to forward the survey invitation (to participate in the survey research) to each OT in their district. The survey sought demographics, information about initial preparation for school-based therapy, and current practice and needs for continuing professional education.

CHAPTER 3

Methodology

The design and methodology that were used to study the professional preparation and the professional development practices of occupational therapists currently working in Minnesota schools is described in this chapter. The purpose of this study is to inform pre-service programs, professional development providers and employers of school-based occupational therapists about the continuing professional development needs of OTs in MN schools. The design is descriptive research, using survey methodology. Descriptive studies are concerned primarily with documenting and describing a current phenomenon (Marshall & Rossman, 1999). Survey research allows the researcher to collect data directly from a sample of individuals and includes such variables as personal background, attitudes, and abilities (Schloss & Smith, 1999, p. 65). Both closed and open-ended questions were used on the survey in this study. Closed-ended questions requested specific responses to focused survey items. Open-ended questions allowed therapists to respond more freely to questions for which response options were less certain. The use of both question formats resulted in a more comprehensive description and understanding of school-based occupational therapists in Minnesota, their professional preparation, and their professional development practices, current and desired. The research design and survey instruments are explained along with instrumentation, sampling, data collection, management, analysis, and methodological integrity.

Design

Descriptive research that involved use of a survey was selected to identify the perceived adequacy of occupational therapists' preparation for school-based practice. The perceived continuous professional learning needs of occupational therapists working in Minnesota schools also were identified. A survey was administered to a sample of Minnesota occupational therapists currently working in schools. Located in Table 2 are the specific items on the survey that informed responses to the research questions and their respective sub-questions.

Table 2, which includes the research question, sub question and survey item links, delineates the relationship between research questions and survey items used in this research study. Demographic information and the strengths and needs of pre-service programs support Research Question 1. Survey questions 1-4, 8, 9 and 19-33 provided data to answer this question. Data about the general and specific topics needed for occupational therapists in school-based practice and preferred learning designs received data from occupational therapists' responses to survey questions 1 and 9 to answer Research Question 2. Research Question 3, concerning the differentiated learning needs of school-based occupational therapists (content by graduation year, design by graduation year, design by demographic location, and barriers by demographic location), is answered by data from survey questions 1, 9-14, 17-19 and 29.

Sample

The study population was occupational therapists who work in Minnesota schools. Because there is no directory or list of such occupational therapists who

Table 2

Research Questions, Sub Questions, and Survey Item Links

Question	Sub question	Survey item
To what extent do school-based OTs feel pre-service education prepared them for work in schools?		1-4, 8, 9, 19-33
In what ways can continuing professional education (CPE) support OTs in schools?	What general content is needed for OTs in SBP?	1, 9
	What specific content is needed for OTs in SBP?	1, 9
What differentiated CPE learning content and designs are needed based on key variables?	How do CPE content needs differ by graduation year?	1, 9, 19
	How do CPE learning design preferences differ by graduation year?	1, 10-14, 19
	How do CPE learning design preferences differ by demographic location?	1, 10-14, 29
	How do CPE barriers to learning differ by demographic location?	1, 17, 18, 29

currently work in Minnesota schools, it was necessary to develop an alternative means by which the population could be accessed. The Minnesota Department of Health (MDH) maintains a database of licensed occupational therapists working in all work settings in Minnesota. The state professional organization, Minnesota Occupational Therapy Association (MOTA) maintains a listserv of OTs who identify themselves as working in school settings. In reviewing each of these lists, they were either too broad in scope (i.e., OTs in all work settings in the state), or they were incomplete (i.e., a list of OTs who

choose to identify their school-based practice affiliation) to reach the intended population in a timely, accurate, and efficient manner. Another means of access was needed.

The Minnesota Department of Education (MDE) maintains a list of directors of special education for each school district in Minnesota. This is a public list, accessible from the internet by means of the MDE website. The website has an updated e-mail address for each director. This list was used to contact the special education directors in each Minnesota school district. They were asked to forward the survey invitation (to participate in the survey research) to each OT in their district. Although this was an indirect method of contacting the population to be studied, it seemed the most likely approach to reliably reach all of the OTs who work in Minnesota schools.

Establishing a population size was initially problematic. As previously stated, neither MDH nor MOTA were thought to provide the necessary information to identify the population of Minnesota school-based OTs. A third source, the MDE, does not keep a public list of OT positions. However, personnel in the Division of Program Finance, Special Education Funding and Data Team, at the MDE compile data about the number of OT positions each district employs on an annual basis. These data are compiled in the form of Full Time Equivalents (FTEs are portions of full time or full time positions in increments between 0.1 and 1.0). For the purpose of this study, FTEs for each school district in Minnesota were provided to the researcher for the 2008-09 school year by personnel on the Special Education Funding and Data Team. From this list it was discerned that there were 492 FTEs for the 2008-2009 school year. The size of the population to be studied was established using FTEs from this source.

Sample size was established using Dillman’s (2000, p. 206) *completed sample size formula*. The number of completed surveys required for a 95% confidence level was calculated for both the $\pm 3\%$ and $\pm 5\%$ sampling error rate. These calculations are included in Table 3. Of the estimated 492 FTE school-based OTs in Minnesota, 166 responded to the survey, indicating an error rate of 5%.

Table 3

Completed Sample Sizes for 95% Confidence Intervals

	3% Sampling Error	5% Sampling Error
OTRs <i>N=492 FTEs</i>	286	164

One consideration for the research project was whether or not to include occupational therapist assistants in the survey. After careful thought about the purpose and usefulness of the research, structure of the survey, accuracy of sampling and access to the population of occupational therapy assistants, it was decided that they would not be included in the current research.

The population of occupational therapists was contacted by an e-mail, forwarded by directors of special education for each school district in the state of Minnesota, asking for their willingness to participate in an on-line survey. The directors of special education were sent, by means of e-mail, an introductory letter (included in Appendix C) about the survey with a request for them to forward an attachment to the registered occupational therapists in their district(s). The attachment (see Appendix D) contained brief information about the survey, its importance and contact information as well as

instructions on how to access the survey through SurveyMonkey (a free on-line survey software tool).

Survey

Surveys are completed to illuminate aspects of a phenomenon that are not directly observable (Marshall & Rossman, 1999; Gall, Gall and Borg, 2003). They are used to learn about the distribution of characteristics, attitudes, or beliefs of a sample from a population. Questionnaires allow the researcher to ask the same written questions of all individuals in the sample; respondents are able to control the data-collection process by typing or writing responses at their individual convenience.

An on-line survey was administered to occupational therapists currently working in Minnesota schools to collect data to answer the research questions. As described previously, survey items included both forced choice (closed) and open-ended responses. Overall, information about the demographic and work circumstances of each respondent was collected, along with perceptions about their pre-service and continuing professional education experiences.

Instrumentation

Initial survey development. The content of the initial survey was determined by reviewing pertinent studies and information from well-known authors in occupational therapy (see Chapter 2), including the American Occupational Therapy Association, as well as from the researcher's experience as a school-based occupational therapist. The literature contained a significant amount of information pertaining to areas of knowledge and practice important for school-based occupational therapy. Notably sparse in the

literature were suggestions about professional learning designs used successfully with various groups of practicing occupational therapists. The limited suggestions that were published were not specifically directed toward occupational therapists who were school-based.

The survey had seven sections and 33 questions, although some questions had multiple parts. Most of the items on the survey were forced choice but there were also several open-ended questions requiring a short answer. One final open-ended question requested comments about the topic of professional education for school-based therapists and yielded more detailed narrative responses.

Section 1 included forced choice questions concerning basic work parameters and the quantity of students served based on age and disability category. Section 2 contained forced choice questions about pre-service experience and coursework, specific topics considered important to occupational therapists in school-based practice, and overall preparedness. Section 3 included forced choice questions about the importance of specific topics related to current practice in schools. Section 4 contained forced choice and short answer questions about specific forms of professional learning. Sections 5 and 6 included forced choice and short answer questions about the quantity and desirability of specific continuing professional education activities both within and outside of the school setting. Section 7 contained forced choice, single answer, and open-ended questions concerning higher education experiences and employment of the respondents. A final question sought additional information that survey participants wished to share on the topic of continuing professional education for school-based OTs. The survey took approximately

30 minutes to complete. Note that the paper version in the appendix is not formatted for electronic distribution.

Pilot and survey refinements. The survey was piloted with five occupational therapy professionals who were currently working in schools in February 2009. After completing the survey, the therapists participating in the pilot were asked questions about pertinence, accuracy, ease of understanding and ease of completion. The amount of time required to take the pilot survey was noted (completion time was approximately 40 minutes). Refinements were made based on the results of the pilot. These were minor in scope including modification of descriptors (e.g., “significant” to “valuable”) and categorical ranges (e.g., caseload numbers), clarification of language, and improvements to demographic questions (i.e., eliminating, adding and reordering questions).

Data Collection

Efforts to increase accuracy in data collection were addressed throughout survey design and development. Specifically, the ordering and formatting of questions, as well as the ease of response and movement through the survey, were crafted to minimize the extent to which errors attributed to non-response, measurement, sampling and coverage might occur.

Non-response error occurs when a “significant number of people in the survey sample do not respond to the questionnaire” (Dillman, 2000, p.10). The error is derived from the potential that non-respondents will have different characteristics than respondents such that study results would be altered. The likelihood of non-response error was limited by adhering to survey construction guidelines easing the process of

engaging with the survey by the respondents. Measurement error occurs “when a respondent’s answer to a survey question is inaccurate, imprecise, or cannot be compared in any useful way to other respondents’ answers” (Dillman, 2000, p. 9). Such error was reduced by attempting to eliminate ambiguity in survey question construction and by ensuring that survey questions clearly related to the overarching research questions. Conducting a pilot study to obtain feedback about the survey questions also assisted in reducing measurement error. The researcher attempted to limit sampling error and coverage error by inviting all known members of the population (i.e., Minnesota OTs in school-based practice) to respond to the survey. Because there was no reliable database of the intended population, however, the extent to which sampling error and coverage errors were reduced is not known. The relatively strong response rate (described below) increases the possibility that the sampling and coverage errors were lessened.

The survey was an on-line and web-based survey using www.SurveyMonkey.com. The survey included a welcome page with an explanation of the survey’s purpose, a description of the consent process, and instructions for completion of the survey (included in Appendix E). The survey was then provided, followed by a thank you page (included in Appendix F).

The survey was administered and monitored through the SurveyMonkey website. The site remained open for eight weeks in March-April 2009. Paper versions of the survey were offered but no requests were made for paper surveys. As indicated previously, of the estimated 492 FTE school-based OTs in Minnesota, 166 responded to the survey, a response rate of 33.7% with a confidence interval of +/- 5%. The data from

all returned surveys were compiled using software provided on the SurveyMonkey website. To estimate the response rate, the possible number of respondents was estimated to be 492 FTEs (see table and information above). This number was established by summing the FTEs of occupational therapists in each district in Minnesota. The actual number of survey respondents was 166. The response rate therefore is estimated to be 33.7%.

Data Organization and Analysis

Data were organized via each research question using the following categories: description of respondents, current practice conditions, pre-service preparation, and past and desired future professional learning experiences. Once organized, descriptive statistics (frequencies and percentages) were used to summarize and as the basis for analysis. Tables were made to display the descriptive data for ease of reporting and analysis. Open-ended questions were analyzed by manually coding responses, using categories derived from forced-choice questions, as appropriate. Once coded, the open-responses were clustered thematically to the extent possible.

Methodological Integrity

Survey research or questionnaires offer these advantages: 1) efficiency of data collection, 2) ease of tabulation and scoring, 3) ease of analysis, 4) anonymous administration, and 5) economical feasibility. Disadvantages of survey research include: 1) potential for low response rate, 2) use of objective items that allow only limited responses, and 3) questionable accuracy due to *social desirability* responses (Gall, Gall & Borg, 2003, p.222; Patten, 2001). On-line surveys have an additional set of contingencies.

Advantages include: 1) advanced efficiencies (over paper surveys), such as the elimination of costs for paper, stamps, and handling, 2) decreased time required for implementation (distribution and administration), and 3) survey format enhancement possibilities (Dillman, 2000). Disadvantages include: 1) potential respondent inexperience with computers and/or on-line surveys, 2) concerns about trust (confidentiality and security), and 3) increased survey enhancements and advanced technical sophistication that can make it impossible for some Web users to receive and respond to on-line surveys.

Limitations and Delimitations

This study examined the perceptions of occupational therapists in Minnesota schools regarding their professional preparation and also their professional development needs. Although the research design was carefully chosen to answer the research questions several limitations exist. The first limitation of this study is that the subjective or perceptual information obtained from the survey is not fact, but based on the feelings or interpretations that respondents had about the topics presented. As such the research results are particular only to the perceptions of the OTs completing the survey. The research results may not be generalizable to other groups of therapists working in schools in other states, regions, or countries. The second limitation is that the sample was obtained through indirect means by contacting directors of special education in districts listed on the Minnesota Department of Education website. This may have limited the participation of intended respondents, due to the possibility that they may not have received the survey, leading to results that may not represent the experiences of all

Minnesota therapists working in schools. A third limitation involves question formats. The use of closed-ended questions potentially limited the responses; the use of open-ended questions resulted in data that could not be statistically analyzed (Dillman, 2000).

The use of an on-line survey may have caused discomfort for some participants due to inexperience or non-preference for this format, leading to increased non-response error. Offering an alternative paper format had the potential to increase the response rate although the paper format was not requested by any of the participants of the survey.

The survey was developed by an occupational therapist who has worked in school-based practice for more than 25 years. Despite a review of literature that informed the context of the survey, it is possible that there was researcher bias in the constructed analysis. This may have led to bias in the construction of the survey based on individual experiences in that setting.

Delimitations of this study include absence of evaluation of the actual knowledge, skills and abilities of occupational therapists practicing in school settings in Minnesota, their actual professional development experiences, and delivery of service based on their learning. Nor did it include the perceptions of parents or other professionals who are team members and who might have observed or had direct knowledge about the actual or perceived adequacy of the professional preparation or continuing professional development needs of OTs working in Minnesota schools.

Chapter 4

Results

The purpose of this study was to identify the pre-service and continuing professional education needs of occupational therapists currently working in Minnesota schools. The study was intended to inform pre-service programs and continuing professional education providers about specific strengths and needs for both preparation and on-going professional learning. This study was designed to answer the following research questions:

1. To what extent and in what areas of school-based practice do Minnesota occupational therapists feel they were prepared to meet the general and differentiated needs of children served in schools?
2. In what ways could continuing professional education meet the needs of Minnesota school-based occupational therapists?
 - a. What general pediatric and general school-based content is needed?
 - b. What specific school-based practice content is needed?
3. In what ways do the learning needs of school-based occupational therapists vary depending on key practice experience and demographic variables?
 - a. How do content needs (delivered through coursework and fieldwork) differ by graduation year?
 - b. How do learning design preferences differ by graduation year?
 - c. How do learning design preferences differ by demographic location?
 - d. How do barriers to access of CPE differ by demographic (practice) location?

To answer the three research questions, a descriptive research design was used. Data were gathered through an on-line survey of occupational therapists working in Minnesota schools. The vast majority of questions were forced choice, although seven open-ended questions were included. Data summarized from open-ended questions will be included in the reporting of appropriate topic areas. One hundred and sixty six out of an estimated 492 occupational therapists in Minnesota responded to the survey.

Results from the survey data are reported in this chapter. A profile of professional practice preparation and experience is provided to give the reader background information about the Minnesota occupational therapists (OTs) in school-based practice who responded to the survey. This information is presented in Table 4. Following the background data, results from five major areas of study are described: employment contexts and conditions, caseload and weekly practice profile, pre-service preparation, and professional learning. Data obtained from open-ended questions on the survey are integrated into the appropriate area of study, with the exception of the final open-ended question, which invited respondents to share additional information they thought would inform the study purpose. Given the global nature of this question, data will be reported in a separate section. A summary discussion concludes this chapter.

Profile of Respondents' Professional Practice Preparation and Experience

The vast majority (71%) of OTs who responded to this survey entered the field of practice with a bachelor's degree. A quarter (25%) entered with a master's degree, and just four percent entered with a certificate. Currently, almost two thirds (64%) hold a master's degree and about one third (36%) hold only a bachelor's degree. It is worthy to

Table 4

Professional Practice Preparation and Experience of Respondents

OT entry degree (n=154)	71% Bachelor's Degree 25% Master's Degree 4% Certificate
Highest degree (n=154)	36% Bachelor's Degree 64% Master's Degree
Pre-Service preparation graduation years (n=154)	27% 1970-79 27% 1980-89 30% 1990-99 16% 2000+
Advanced certification (n=121)	93% No advanced certification 6% Pediatrics (AOTA) 1% Rehabilitation (AOTA)
Experience as an OT (in any setting) (n=154)	60% 16 or more years 33% 5-15 years 7% Fewer than 5 years
Experience in School-Based Practice (n=152)	47% 16 or more years 38% 5-15 years 15% Fewer than 5 years

note that since 2009, graduates of occupational therapy pre-service programs have been required to obtain a master's degree. A very small percentage (7%) had advanced certification in the field. Of those, Pediatric Advanced Certification granted through the American Occupational Therapy Association (AOTA) was the most frequently held credential, but accounted for only 4% (7/166) of all respondents. The percentage of respondents who graduated in the 1970s, 1980s, and 1990s was about the same for each decade, ranging from 27-30% of respondents. Only 16% of respondents graduated from the years 2000 to 2009. Slightly more than half (60%) of therapists surveyed had 16 or more years of experience as practicing OTs and about half (47%) had 16 or more years experience in school-based practice. In summary, about half of the OTs who responded to the survey completed their initial training over 20 years ago, currently hold a master's

degree and have 16 or more years of practice experience as an occupational therapist in all practice settings and in school-based practice. A very limited number (7-15%) have fewer than five years of experience. The vast majority of respondents, therefore, have a minimum of five years of practice experience. A complete presentation of these data is available in Table 4.

Employment Contexts and Conditions

Another set of questions yielded data concerning the employment conditions of school-based OTs who work in Minnesota schools. Data are presented in Table 5. All of the school-based OTs who responded to the survey work in public schools with most (95%) working in traditional public school settings and very few (5%) working in charter public schools. The vast majority (86%) reported working full-time in schools and 75% working in just one school district. Therapists were relatively evenly distributed among demographic locations with 20-25% in each of three locales, i.e., urban, suburban and small towns. Only 10% are employed in rural areas.

The majority of OTs in school-based practice in Minnesota who responded to this survey described themselves as being employed full time, working in schools located in one public school district and working in either an urban or suburban setting. Most work with at least three other therapists. The vast majority of respondents are supervised by someone other than an occupational therapist. About half supervise assistants.

Table 5

Employment Contexts and Conditions

Employment status (hours per week) (n=166)	86% Full time 8% $\frac{3}{4}$ time 6% $\frac{1}{2}$ time
Practice setting (n=165)	75% in one district 25% in SBP plus other settings (hospitals, pediatric clinics, nursing homes or private practice)
Type of school (n=147)	95% Traditional public school 5% Charter public school
Demographic setting (n=155)	25% Urban 20% First ring suburb 25% Second-Third ring suburb 20% Small-Medium town in greater MN 10% Rural
Supervisor (n=130)	56% Director of Special Education 19% Occupational therapist 25% Other staff including a principal
Supervision of COTAs and paraprofessionals (n=155)	10% 3 or more 38% 1-2 52% 0
Work with other OTs in district (n=155)	35% Work with > 10 15% Work with 6-10 36% Work with 3-5 13% Work with 1-2 1% Work alone

Caseload and Weekly Practice Profile

The vast majority (82%) of respondents indicated caseloads of 36 or more students. Nearly all (93%) of the OTs serve at least some elementary age students. A majority also serve preschool (84%), middle school (75%), and high school (64%) aged students. Almost a third (31%) serve students in their transition school years (ages 14-21). The primary disability group served by nearly all (98%) of the responding OTs is Autism Spectrum Disorder (ASD). Eighty percent or more also served students with the

following primary disability labels: Developmental Cognitive Disorder (DCD: 90%), Emotional Behavioral Disability (EBD: 89%), Physically Impaired (PI: 81%), Early Childhood Special Education 3-6 (ECSE: 80%) and Specific Learning Disability (SLD: 80%). Further analysis revealed that the majority of OTs (76%) serve six or more different disability groups, and half serve three to five of the five age ranges of students. A table of these data is located in Appendix G.

Shifting now to consider the types of activities in which the responding OTs spend time during the week, two thirds (69%) reported spending 50% or more of their

Table 6

Weekly Activities of OTs in School-Based Practice

Weekly Activity	No/Very Little Time		25% of the Time		50% of the Time		75% or More of the Time	
	f	%	f	%	f	%	f	%
Direct service to students (n=154)	15	10	32	21	61	39	46	30
Meet or consult with other team members (n=154)	29	19	96	62	19	12	10	7
Recordkeeping or paperwork (n=153)	17	11	114	75	19	12	3	2
Supervision (n=149)	122	82	25	17	1	.5	1	.5
Driving between schools (n=147)	101	69	43	29	2	1	1	1
Other (n=32)	21	66	8	25	1	3	2	6

Note. f = number of respondents reporting the activity; % = percent of respondents reporting the activity

time providing direct service to students; nearly thirty percent reported more than 75% of their time serving students directly. Most (81%) of the OTs reported spending 25% or more of their time meeting or consulting with other team members and nearly all (89%) reported spending 25% or more of their time with recordkeeping or paperwork. The vast majority (66-82%) of the OTs report spending very little or no time supervising team members, driving between schools or in other activities. Table 6 presents these data.

Pre-service Preparation

A key area of study in this research was to determine the extent to which the pre-service preparation of the responding OTs was viewed as preparatory for OT practice in school settings. To do this OTs were asked to rate the importance of specific areas of knowledge for school-based practice and also to indicate the amount of pre-service coursework and fieldwork related to four areas of pediatric OT practice, 14 areas of school-based practice and one item about overall school-based OT practice. Table 7 presents a summary of ratings (reported in mean scores) by the school-based OTs who responded to the survey. Each item was rated using a three-point scale (ranging from 0/low to 2/high). Results for the three scales were interpreted as follows: items with resulting means between 0.00 and 0.50 were viewed as low, means between 0.51 and 1.50 were viewed medium, and means between 1.51 and 2.0 were viewed as high.

Overall, each of the knowledge areas for pediatric occupational therapy was viewed as very important for school-based occupational therapy practice, with average ratings between 1.83 and 1.90, on the 2/high scale. Similarly, 12 of the 14 knowledge

Table 7

Importance of Knowledge for School-Based Practice Compared to Amounts of Pre-service Coursework and Fieldwork (reported in mean scores 0/low to 2/high)

Knowledge Area	School-Based Practice: Importance ^a (n=160-161)	Pre-Service Coursework: Amount ^b (n=160-162)	Pre-Service Fieldwork: Amount ^c (n=152-159)
Pediatrics:			
•OT interventions	1.90	1.18	1.32
•Atypical growth and development of children	1.87	1.21	1.27
•Typical growth and development of children	1.86	1.23	0.89
•Assessment	1.83	1.11	1.22
School-Based Practice:			
•Educationally related OT interventions	1.91	0.60	0.68
•Education related OT assessments	1.91	0.70	0.71
•Accommodations	1.78	0.69	0.70
•Working as a member of an educational team	1.77	0.45	0.70
•Variations in OT depending on age of students	1.71	0.51	0.74
•Special education and related services	1.70	0.63	0.59
•IEPs, IIPs (IFSPs)	1.63	0.42	0.63
•Documentation and reporting	1.61	0.66	0.88
•Occupations of children in schools	1.56	0.59	0.57
•Frameworks for OT practice in schools	1.52	0.64	0.55
•Referrals, assessments and educational labeling of children	1.52	0.38	0.58
•Cultural competence	1.51	0.43	0.46
•Supervision and training other providers	1.47	0.49	0.58
•General education curriculum and expectations	1.28	0.12	0.23
School-Based Practice in General	1.67	0.75	0.80

^aRating Scale: 0/not very important; 1/important; 2/very important

^bRating Scale: 0/no coursework; 1/some coursework; 2/much coursework

^cRating Scale: 0/no fieldwork; 1/fieldwork I; 2/fieldwork II

areas for school-based practice were rated as very important, with average ratings between 1.51 and 1.91. The two remaining areas were rated as important, with average ratings of 1.28 and 1.47. It is interesting to note that the lowest rated (1.28) knowledge area was “general education curriculum and expectations.” Despite the school practice context and the policy emphasis of occupational therapy in schools as an “educationally related service,” knowing about general education learning was rated as the lowest area.

Essentially, all of the pediatric and school-based practice knowledge areas were viewed as important for school-based occupational therapy practice. Although these areas were rated high, respondents indicated that the amount of coursework and fieldwork did not appear to substantially support these areas of practice. Respondents indicated that all four of the pediatric knowledge areas reached only the level of “some” amount of coursework (with average ratings between 1.11 and 1.23) and the level of “some” amount of fieldwork (with average ratings between 0.89 and 1.32). Of the 14 areas of school-based practice only eight reached the level of “some” coursework (with average ratings between 0.51 and 0.71) with the remaining six areas averaging “no” coursework (ratings between 0.12 and 0.49). In reviewing the categorical response data for each item, three percent of responding OTs indicated receiving no coursework related to the four pediatric items, contrasted with 52 percent who indicated receiving no coursework related to the 14 school-based practice items. Thirty-two percent indicated receiving no fieldwork related to the pediatric items and 63 percent to the school-based practice items. More specifically, only 13 percent were exposed to school-based items in Fieldwork I and 24 percent in Fieldwork II.

To summarize, aggregate responses from OTs that compared knowledge areas important for school-based occupational therapy practice with the amount of pre-service coursework and fieldwork indicated the following: Coursework and fieldwork assisted in preparing OTs to some extent in four areas of pediatrics and to a lesser extent in the school-based practice areas. Although OTs were generally exposed to school-based practice in Fieldwork I, most do not participate in a Fieldwork II school-based experience. Sixteen of the 18 knowledge areas, as well as school-based practice in general were rated high (1.51-2.0) in importance to current practice by all of the OTs surveyed yet the coursework and fieldwork preparation did not reach this level in any (0/19) area. Some coursework was reported for 12 of 18 knowledge areas and the summary item school-based practice in general. Some fieldwork was reported in 16 of 18 knowledge areas plus school-based practice in general.

Data concerning the importance of knowledge areas and preparatory coursework and fieldwork were also examined by pre-service graduation year. Located in Appendices H-J are summaries of data disaggregated by four “cohorts” that were determined based on the year OTs completed their pre-preparation program. Cohort 1 included 42 occupational therapists with graduation dates between 1970 and 1979. Cohort 2 included 42 therapists with graduation dates between 1980 and 1989. Cohort 3 included 46 therapists with graduation dates between 1990 and 1999. Cohort 4 included 24 therapists with graduation dates in the year 2000 and later. The same scaling was used for these three tables as for Table 7 above. Each item was rated using a three-point scale (0/low to 2/high). Results for the three scales were interpreted as follows: items with resulting

means between 0.00 and 0.50 were rated as low, means between 0.51 and 1.50 were rated medium, and means between 1.51 and 2.0 were rated as high.

When the ratings of the importance of specific knowledge areas in SBP were compared across cohorts, no salient differences were revealed between the ratings from OTs across the four cohorts and the ratings for all of the OTs surveyed. Notable differences were reported, however, in some areas of coursework and fieldwork over the years.

Pre-service coursework ratings in the pediatric knowledge areas appeared consistent, as reported by separate cohorts over the ten year time periods. General school-based practice and eight of 14 specific school-based practice areas also appeared consistent over the years. Pre-service coursework appeared to increase in six of the 14 school-based items across the cohorts. OTs in the later graduating cohorts reported “some” coursework (where earlier cohorts reported “no” coursework) in these areas: frameworks for practice in schools, occupations of children in schools, writing educational plans (IEPs, IIPs, IFSPs), cultural competence, working as a member of an educational team, and supervision and training of other providers.

Next, the researcher analyzed fieldwork data across cohorts. When comparing responses over time, members of each cohort reported an increasing amount of fieldwork in the assessment area of pediatrics and in 12 of 14 specific areas of school-based practice. The two areas for which increases were not evident were exposure to documentation and reporting and general education curriculum and expectations. Although OTs reported an increase in nearly all of the specific knowledge areas of

school-based practice there was no discernable increase in rating the “school-based practice in general” item. Perhaps this was because of the comprehensive and somewhat ambiguous terminology used for the item (i.e., school-based practice in general). Note that OTs in the 1970-1979 cohort reported an extremely low level of exposure to the school-based areas of cultural competence and general education curriculum and expectations. The exposure to general education curriculum and expectations did not increase in the younger cohorts or more recent graduates of professional programs.

In summary, occupational therapists who responded to the survey reported that their pre-service program prepared them to some extent for practice in school settings. The four areas of pediatrics and 12 of the 14 specific areas of school-based practice, and a general school-based practice item were rated very important to their current practice. They reported only “some” amount of coursework and fieldwork in the pediatric areas, however, and coursework in just eight of 14 school-based practice areas. The vast majority reported some amount of coursework in the general area of pediatrics, but 52% reported no coursework in the 14 school-based practice areas. About a third (32%) indicated no fieldwork in pediatrics but almost two thirds (63%) reported no fieldwork in school-based practice. Few (13%) reported exposure to school-based practice in Fieldwork I and only a quarter (24%) reported exposure in Fieldwork II. Comparing data across the graduation-year cohorts yielded no discernable difference in the value of each knowledge area, but a trend toward more coursework in half of the school-based practice areas was evident. Also evident was a trend toward more fieldwork experience in both

pediatrics and in nearly all school-based practice areas. Exposure to general school-based practice and general curriculum and expectations remained low across all cohorts.

Professional Learning

Continuing professional education for school-based occupational therapists includes learning activities both inside (school or district) and outside (regional, state, national) their practice setting. It includes learning through a variety of methods (e.g., conversations, workshops, formal coursework, e-learning, home study). This section describes valued past learning experiences and desired future learning opportunities for OTs in school-based practice in Minnesota. Data from open-ended questions quantify time spent in learning activities. Also included are barriers to continuous professional learning.

Previous Continuing Professional Learning Experiences

The responding school-based practice OTs rated the extent to which a variety of previous continuing professional learning experiences were considered valuable using a three-point scale of 0/not very valuable, 1/valuable, 2/very valuable. These past learning experiences varied from informal to formal, from individual to large group, and included face-to-face, print and electronic learning. The 0 to 2 scale results were interpreted as follows: items with resulting means between 0.00 and 0.50 were viewed “not very valuable,” means between 0.51 and 1.50 were viewed as “valuable,” and means between 1.51 and 2.0 were viewed as “very valuable.” Table 8 presents a summary of the findings about the perceived value of previous experiences with continuous professional learning. All learning methods were viewed as “valuable.” None were considered “not very

Table 8

Perceived Value^a of Previous Learning Methods (reported in mean scores)

Previous Learning Method	Rated value of previous learning experience ^b	Number of Respondents		
		With experience	With no opportunity	Total number
Learning from experience on the job	1.97	158	0	158
Learning from another OT	1.84	153	5	158
Workshops sponsored by OT professional organizations	1.64	149	9	158
Learning from IEP/IIP members	1.59	157	1	158
Learning within groups/networks of OTs: locally	1.59	143	14	157
Workshops by private agencies/providers	1.56	151	7	158
Workshops by school district or educational cooperative personnel	1.43	155	2	157
Workshops sponsored by state agencies	1.36	139	17	156
Professional literature	1.36	154	4	158
Learning by supervising or mentoring COTAs, OT students or others	1.23	143	14	157
College or university coursework	1.2	145	13	158
State or national conferences	1.15	124	34	158
Learning within groups/networks of OTs: regionally/nationally	1.14	115	42	157
E-learning	1.10	89	69	158
Home study course	1.01	93	65	158

^aRating Scale: 0/not very valuable; 1/valuable; 2/very valuable

^bAverage rating calculated using only respondents with experience

valuable.” Six learning methods emerged as “very valuable.” These were: learning from experience on the job; learning from another OT; workshops sponsored by OT professional organizations; learning from IEP, IIP (IFSP) members; learning within groups/networks of OTs locally; and workshops by private agencies/providers.

Collectively, these most valued learning experiences suggest that the responding OTs appreciated learning interactions with local practice-based colleagues. The learning methods rated the lowest were: home study course, e-learning, learning within groups/networks of OTs regionally/nationally, and state or national conferences. The lowest rated methods, however, also were the items for which many respondents had not had the opportunity to engage.

An open-ended question on the survey also revealed learning methods that respondents viewed as valuable. Respondents were asked, “as you reflect on all of the ongoing learning experiences in which you have engaged (those mentioned above and others you have experienced), which three have been the most valuable to you?” These written responses were coded and counted using the same set of learning experiences presented to respondents as forced choice items to be rated. The vast majority (151 of 166; 91%) responded to this open question and, collectively, offered 364 responses. A response summary is provided in Table 9. Workshops were identified by 82% of the OTs who wrote responses to this question as the most valuable type of learning experience. “Workshops” also was the most frequently written response and was offered by the highest percent of respondents. Specifically, workshops provided by private agencies (indicated by 32% of respondents) and workshops more generally noted

Table 9

Summary of Open-Ended Responses about Valuable Past Learning Experiences

Learning Experience	Respondents (n=151)		Responses (n= 386)	
	f	%	f	%
Workshops (all)	124	82	155	40
General	39	26	42	11
•School/ECSU	18	12	18	5
•State agencies	14	9	14	4
•OT professional org	16	11	16	4
•Private agencies	48	32	48	12
Another OT (mentor/ colleague)	83	55	84	22
Learning OTJ	57	38	57	15
From IEP/IIIP members	34	23	34	9
Professional literature	20	13	20	5
College/ university coursework	15	10	15	4
E-learning	8	5	8	2
State/ national conferences	6	4	6	2
From groups or networks of OTs	6	4	2	<1
•Locally	3	2	4	1
•Regionally/ nationally	2	1	2	<1
Other:	3	2	3	1
•Fieldwork	2	1	2	<1
•Pediatric coursework	1	<1	1	<1
By supervising or mentoring a COTA, OT student, paraprofessional	1	<1	1	<1
Home study course	1	<1	1	<1

Note. f = the number of respondents who wrote about the respective learning experience and the number of responses respectively

(indicated by 26% of respondents) were the two most highly rated workshop items. The second most frequently written type of learning experience was learning from another OT (mentor or colleague) indicated by 55% of respondents. The third most highly rated learning experience was on-the-job experience, indicated by 38% of respondents. About one quarter (23%) of the respondents also indicated value learning from IEP/IIIP (IFSP) members.

Two additional open-ended questions provided more detailed information about OT engagement in two specific forms of professional learning. The first question was, “how many hours per year do you engage in professional learning focused on school-based practice?” Ninety percent (149) of the total number of survey respondents wrote responses to this question. Of these, data from only 145 were used. Four responses could not be used because they took the form of words (i.e., “countless” and “college courses”) instead of specific numbers. The remaining 145 responses were skimmed to observe how the response frequencies clustered. Four specific categories were then identified. Half (49%) of the OTs reported spending 10 to 30 hours and a third (35%) 30-64 hours in professional learning per year. One respondent reported spending just two to three hours per year engaged in professional learning focused on school-based practice.

The second open-ended question was, “how many hours per month do you spend with OT colleagues talking about the students you serve?” One hundred forty-nine (90%) respondents wrote in replies but only 147 could be used, for the same reasons stated above. Those responses were removed. A little more than half (56%) reported spending three or fewer hours per month and a third (32%) reported spending slightly more time,

three to 10 hours per month, talking to their colleagues about their students. Ten percent of the responding OTs spent less than one hour per month talking with other OT colleagues about students.

Occupational therapists in school-based practice responding to the survey considered all past learning experiences as at least “valuable.” Responding OTs rated learning interactions with local practice-based colleagues as “very valuable.” Ninety to ninety-one percent of survey respondents, answering three related open-ended questions, identified workshops, learning from another OT (mentor or colleague), and learning from on-the-job experience, as past preferred learning methods. More than half (58%) reported spending thirty or fewer hours per year on professional learning focused on school-based practice and half (56%) reported spending three or fewer hours talking about students with other OTs.

Desired Future Learning Experiences

The responding school-based practice OTs rated the extent to which a variety of future learning experiences were viewed as desirable using a three-point scale of 0/not very desirable, 1/desirable, and 2/very desirable. Desired future learning experiences ranged from informal to formal, from individual to large group, and included face-to-face, print, and electronic learning. Using the 0-2 scale, the results were interpreted as follows: items with resulting means between 0.0 and 0.50 were viewed as “not very desirable,” means between 0.51 and 1.50 were viewed as “desirable,” and means between 1.51 and 2.0 were viewed as “very desirable.” Table 10 presents a summary of the findings. The following learning structures were viewed as most desirable: formal

Table 10

Desirability of Future Learning Experiences (reported in mean rating scores)^a

Learning Experience	Desirability of future learning	Total respondents
Workshops: Formal (1-3 days) in my region/ state/nationally	1.60	156
Professional conversations: Regularly scheduled with OTs in my school/district	1.59	155
Workshops: Directly relevant to my SBP in my school/district	1.55	156
Observing: Other OTs in their School-Based Practice (SBP)	1.29	156
Study groups: Topical with other OTs/ related service providers in my school/district	1.20	155
Professional conversations: Regularly scheduled with OTs in my region/state	1.19	156
Professional literature: Learning by reading books, articles	1.17	156
Workshops: Being included with other personnel in my school/district	1.16	155
Professional conversations: Regularly scheduled with a variety of personnel in my school/district	1.13	155
Learning with technology: Formal on-line learning	1.01	156
Mentoring: Serving as a coach or mentor for an OT colleague	0.99	155
Advanced formal learning: College courses	0.99	156
Mentoring: Being coached or mentored by an OT colleague	0.93	156
Learning with technology: Informal on-line learning	0.93	155
Study groups: With a variety of personnel in my school/district	0.86	155
Professional literature: Home study course with mailed materials	0.85	156
Advanced formal learning: Pursuing an advanced degree	0.80	154
Learning with technology: Pod or web casts	0.74	156
Advanced learning: Pursuing advanced certification from AOTA	0.73	154

^aRating Scale: 0/ not very desirable; 1/desirable; 2/very desirable

workshops of 1 to 3 days, regularly scheduled professional conversations with OTs in the same school or district, and workshops directly relevant to SBP in the school or district. As with the ratings about past learning methods, all future learning methods were viewed as at least “desirable.”

Two open-ended questions further defined preferred learning methods for school-based OTs. The first question was “what are the most desirable ways of advancing learning WITHIN your current practice setting (school/ district)?” The responses were coded and counted using the same set of future learning experiences from forced choice questions. Eighty-nine percent (148) of the 166 survey respondents wrote responses, for a total of 383 responses to this open-ended question. These are summarized in a table (see Appendix K) from highest to lowest frequency of responses. Conversations were identified by 60% of OTs who wrote responses about the most desirable learning method within their school or district. Specifically, “conversations with OTs in my school/ district,” written by 20% of those responding, was the most highly rated type of conversation. Workshops was the second most frequently written in type of learning method within the school/district (representing 48% of OTs responding to this question). The third most highly rated learning method was study groups, indicated by 18% of respondents.

The second open-ended question was, “what are the most desirable ways of advancing your learning OUTSIDE of your current practice setting (school/ district)?” The responses were coded and then counted. The coding scheme used for the open

responses was parallel to the categories used in the forced choice items. One hundred forty three of 166 respondents wrote responses, yielding 343 total responses. These are summarized in Appendix L from highest to lowest frequency. The most desirable learning method outside their school or district was workshops, identified by 70% of this question's respondents. The second most frequently written response was advanced or formal learning, written by 29% of OTs who wrote responses to this question. The third most highly rated learning method was use of technology, indicated by 15% of respondents.

Occupational therapists in school-based practice responding to the survey considered all past learning experiences as at least "valuable." The two most valuable learning methods were workshops and conversations with OTs in the same school or district. Responses from open-ended questions asking about preferred learning methods within and outside of their school or district setting aligned with the forced choice response data. Conversations with colleagues was most frequently named as their preference for learning within their school or district and workshops was the most frequently named preference for learning outside their school or district.

Desired Future Learning by Practice Location

Desired future learning experiences were also considered based on the demographic locations in which the responding OTs worked. A summary of these responses is located in Table 11. A zero to two scale (0/not very desirable, 1/desirable, and 2/very desirable) was used and results are interpreted as follows: items with resulting means between 0.0 and 0.50 were viewed as "not very desirable," means between

Table 11

Desirability of Future Learning Experiences by Demographic Location (reported in mean scores)^a

Learning Experience	Urban (n=37-38)	First Ring Suburban (n=30-31)	Second-Third Ring Suburban (n=37-39)	Small- Medium Town (n=27-28)	Rural (n=19)
Workshops: Formal (1-3 days) in my region/state/ nationally	1.63	1.55	1.77	1.68	1.58
Professional conversations: Regularly scheduled with OTs in my school/ district	1.61	1.58	1.62	1.54	1.58
Workshops: Directly relevant to my SBP in my school/district	1.63	1.55	1.51	1.57	1.58
Observing: Other OTs in their School-Based Practice (SBP)	1.29	1.26	1.39	1.14	1.42
Study groups: Topical with other OTs/ related service providers in my school/district	1.39	1.00	1.23	1.21	1.05
Professional conversations: Regularly scheduled with OTs in my region/ st	1.05	1.23	1.21	1.29	1.21
Professional literature: Learning by reading books, articles	1.21	1.32	1.08	1.11	1.05
Workshops: Being included with other personnel in my school/district	1.16	1.23	1.11	1.07	1.32
Professional conversations: Regularly scheduled with a variety of personnel in my school/district	0.97	1.26	1.15	1.07	1.26
Learning with technology: Formal on-line learning	1.08	1.00	0.97	0.96	1.00
Mentoring: Serving as a coach or mentor for an OT colleague	1.00	0.87	1.08	0.89	1.11
Advanced formal learning: College courses	0.89	0.94	1.15	0.93	0.95
Mentoring: Being coached or mentored by an OT colleague	1.03	0.84	1.03	0.82	0.89
Learning with technology: Informal on-line learning	1.03	0.93	0.95	0.79	0.89
Study groups: With a variety of personnel in my school/district	1.05	0.84	1.15	0.82	0.68
Professional literature: Home study course with mailed materials	0.89	0.84	0.85	0.79	0.89
Advanced formal learning: Pursuing an advanced degree	0.66	0.81	0.95	0.68	0.79
Learning with technology: Pod or web casts	0.79	0.65	0.72	0.82	0.74
Advanced learning: Pursuing advanced certification from AOTA	0.71	0.71	0.87	0.63	0.68

^aRating Scale: 0/not very desirable; 1/desirable; 2/very desirable

0.51 and 1.50 were viewed as "desirable," and means between 1.51 and 2.0 were viewed as "very desirable." OTs in all demographic settings, mirroring the views of the responding OTs as a whole, rated the following experiences as very desirable: formal workshops of one-three days, professional conversations with OTs in my school/ district and workshops directly relevant to school-based practice.

Comparison of Valued Past and Desired Future Learning Methods

In comparing responses about past learning experiences viewed as desirable and desired future learning experiences (see Appendix M for a complete data summary), the following points can be made: (a) OTs responding to the survey indicated that they valued past learning experiences grounded in the daily work of a school-based OT (i.e., learning from experience, learning from another OT and from team members, and learning within local networks of OTs as well as from formal workshops), (b) when asked about desired future learning, these same OTs rated multiple day workshops (regional, state or national) as well as workshops directly relevant to SBP in their school or district as very desirable, and (c) learning experiences grounded in their daily work, (seen as professional conversations with local OT colleagues) also was rated as very desirable.

OT responses about past and desired future learning experiences were compared. The most valued past experiences were learning with colleagues while focused on daily work. The most desired future learning experiences were workshops in various forms.

Barriers to Continuing Professional Education

OTs in school-based practice responding to the survey rated the extent to which specific barriers restricted their participation in continuing professional education. A summary of responses is shown in Table 12. Nearly two thirds viewed all of the listed items as either a “somewhat” or “significant” barrier to their continuing professional education. Ninety-two percent of the responding OTs viewed cost as a somewhat or significant barrier and about three quarters reported that distance and access to high quality and relevant content for OT practice in school settings were barriers to their

Table 12

Barriers to Continuing Professional Education (reported in percentage of respondents)

	Not a Barrier	Somewhat of a Barrier	Significant Barrier	Total Respondents
Access to other OTs in school-based practice	40%	43%	17%	156
Access to high quality and relevant content for OT practice in school settings	21%	49%	30%	156
Cost of course or learning opportunity	8%	37%	55%	156
Distance required to attend conferences/ seminars of interest	25%	42%	33%	154
Insufficient E-learning opportunities and support	37%	48%	15%	155
Paid time off not provided	37%	34%	29%	156

continuing professional education. About sixty percent viewed the other barriers (i.e., insufficient e-learning opportunities, paid time off not provided, lack of access to other OTs in school-based practice) as somewhat or significant barriers to their professional learning.

When considering barriers to continuing education by demographic location (a full table is found in Appendix N) it is evident that the cost of a course or learning opportunity is a significant barrier for OTs across all locations. For OTs in medium to small towns and in rural settings the distance required to attend conferences and seminars was rated as a significant barrier.

An open-ended question, “What do you view as the biggest challenges to your continuing growth as an OT in school-based practice?” further emphasized barriers to continuous professional education. The vast majority of overall survey respondents (89%, 147 of 166) wrote a total of 238 responses to this open-ended question. Responses were coded and counted using the same set of barriers presented to respondents as forced choice rating items. An “other” category was added to capture the thirty-three percent of responses that did not fall into one of the response categories. These are summarized in Appendix O from highest to lowest frequency. Overall, cost and time were identified as the biggest challenges to continuing professional education.

Sixty percent or more of OTs responding to the survey viewed all of the forced choice items as somewhat or significant barriers to their learning. Cost, distance, time and access to high quality and relevant content for OT practice in school settings emerged as barriers to continuous professional learning. Access to other school-based OT colleagues was a barrier noted by OTs in rural settings.

Summary of Professional Learning

Occupational therapists working in Minnesota schools who responded to questions about their past and desired future learning experiences shared the following.

The most highly valued past learning methods were workshops, learning from other OTs and learning on-the-job. Workshops and conversations with OTs in the same school or district were the most desired future learning methods, with workshops the preferred method outside of their school and conversations with colleagues the preferred method inside their school. Preferences by demographic location mirrored the responses of OTs as a whole.

The most significant barrier to continuing professional education, cited by nearly all (92%) of responding OTs, was cost. Access to high quality relevant content for school-based therapists and distance also were reported as barriers by an overwhelming majority of the OTs. For those in medium to small towns and rural settings, distance and access to other OTs in school-based settings were additional barriers.

Final Comments by Respondents

The final open-ended question read as follows, “the primary purpose of this survey is to determine the continuing professional learning interests and needs of OTs in school-based practice. Please write anything else we should know here.” This final question was intentionally global in nature and generated comments, concerns and suggestions in a large number of areas. Fifty-seven of the 166 survey respondents (34%) offered their final perspectives (see Appendix P for a complete response summary).

The vast majority of responses generated from this final question were “singletons” meaning just one person offered that particular response. There were only three items offered by at least five respondents. These were a suggestion to create standards for occupational therapy in school-based practice and a reiteration of two

previously identified barriers to continuing professional education – cost and lack of quality courses. The only additional finding of interest from the question was thirteen respondents who each suggested a specific topical learning experience for continuing professional education. Very few, however, identified the same topic.

Chapter Summary

This chapter presented the results of research data that describes the professional preparation of school-based occupational therapists and their continuing professional education practices and needs. A survey of occupational therapists currently working in Minnesota schools was used to capture the data for this study.

Occupational therapists feel somewhat prepared for school-based practice by their pre-service program. Although the vast majority reported engaging in pediatric related coursework, more than half reported no coursework related to school-based practice areas that they viewed as important. Overall, about a third reported no fieldwork in pediatrics and two thirds reported no school-based fieldwork. More recent graduates of pre-service occupational therapy programs, however, reported more coursework in school-based practice and more fieldwork in both pediatrics and school-based practice. Knowledge about occupational therapy as a related service and the use of assessment, intervention planning, and accommodations specific to the school setting were rated as very important. Also identified as important were teaming and practices for documentation and reporting specific to school-based OT services.

When considering past and future continuing professional education, school-based occupational therapists responding to the survey rated all past learning methods as

“valuable.” They preferred regularly scheduled professional conversations with OTs in the same school or district and formal workshops of one to three days in any location (region, state, nationally) for future learning. OTs named conversations as their preferred learning method for inside their school or district and workshops as their preferred learning method outside the school district. Cost of continuing professional education courses was rated the greatest barrier to learning. For those who live outside the metro area, distance was also a significant barrier to accessing quality school-based continuing professional education.

CHAPTER 5

Discussion

This descriptive research, focused on the continuing professional education (CPE) practices of occupational therapists, was designed to identify the pre-service and continuing professional education needs of OTs employed in Minnesota schools. The study purpose was to inform pre-service OT programs, employers of school-based OTs and continuing professional education providers about specific strengths and needs for both pre-service education and ongoing professional learning. This chapter provides a review and discussion of the findings of this study. Conclusions, implications and policy considerations, thoughts about future research, and a summary conclude this final chapter. The OT researcher has had experience working in schools for over 25 years, personal experience with professional development offerings, and university coursework pertaining to quality continuing professional development for educational personnel. Her interest in this area and her own perception of the realities of school-based OT and professional learning in schools prompted this study.

In an extensive review of the literature, the researcher found plentiful research on the professional knowledge, skills and abilities viewed as necessary for school-based OTs. In contrast, few studies were located concerning continuing professional education for OTs. Professional development content and learning designs for occupational therapists in school settings, including Minnesota, were either unavailable or non-existent. Rules and regulations regarding national certification and state licensing were available, including professional development clock hour requirements for Minnesota

OTs in general. No specific continuing professional development requirements for school-based OTs currently exist.

The research questions, included below, were developed to frame the inquiry focused on the current status, knowledge areas, professional development practices and needs for OTs working in Prek-12 school-based environments. Responses to these questions provided a clearer picture of the CPE needs of OTs currently employed in school-based practice in Minnesota. Responses were obtained by means of a survey administered electronically. Survey items queried the survey respondents about pre-service education coursework and fieldwork, knowledge required for OTs working in school settings, and continuing professional education preferences and practices. Demographic and background information were also solicited. The over arching study questions were:

1. To what extent and in what areas of school-based practice do Minnesota occupational therapists feel they were prepared to meet the general and differentiated needs of children served in schools?
2. In what ways could continuing professional education meet the needs of Minnesota school-based occupational therapists?
 - a. What general pediatric and general school-based content is needed?
 - b. What specific school-based practice content is needed?
3. In what ways do the learning needs of school-based occupational therapists vary depending on key practice experience and demographic variables?

- a. How do content needs (delivered through coursework and fieldwork) differ by graduation year?
- b. How do learning design preferences differ by graduation year?
- c. How do learning design preferences differ by demographic location?
- d. How do barriers to access of CPE differ by demographic (practice) location?

Summary of Key Findings

The researcher set out to describe the perceived preparedness of school-based occupational therapists working in Minnesota schools, as well as to discern their continuing professional education experiences, needs and preferences for future learning. Results of the study are presented here in three sections: preparedness for school-based practice, practice profile and parameters, and continuing professional education. Included in each section are a brief summary of the study, connections to past research, possible implications and future research.

Preparedness for School-Based Practice

Minnesota school-based occupational therapists who responded to the survey indicated that their pre-service education prepared them to some extent for work in schools. They also reported, however, only limited exposure to knowledge areas considered important to current school-based practice. All 18 of the pediatric and school-based practice knowledge areas included in the survey were viewed as important for school-based occupational therapy practice. Respondents, overwhelmingly, indicated that 16 of the 18 school-based knowledge items, as well as the one item about school-based practice in general, were rated as highly important to current practice. They also reported,

however, that pre-service coursework and fieldwork did not substantially support these areas of practice. In fact, just over half (52%) reported no coursework in the school-based practice areas. One third indicated no fieldwork in pediatrics and two thirds no fieldwork in school-based practice.

In a national study of school-based occupational therapy, Brandenburger-Shasby (2000) reported that 80% of 450 respondents indicated they were not prepared in any of 20 school-based practice areas, although there was a slight increase in perceptions about preparedness in the 1990s as compared to the 1970s. About a quarter of the respondents indicated exposure to school-based practice in Level I Fieldwork and in Level II Fieldwork. About half (46%) reportedly had a pediatric Level II Fieldwork experience. Although Minnesota OTs in the current study appear to have had more exposure to Level II Fieldwork experiences in pediatrics than participants in the study by Brandenburger-Shasby, the Minnesota OTs' exposure to specific school-based practice items viewed as important to their current practice was only 13% in Fieldwork I and 24% in Fieldwork II.

In the occupational therapy literature there is a discussion about generalist preparation and the extent to which specialty areas, such as school-based practice, are appropriately considered advanced areas of practice. The American Occupational Therapy Association (AOTA, 1998a, 1998b, 2006e) authorizes generalist preparation. In the specific area of school-based practice, however, challenges to the policy of generalist preparation are evident (Burtner, McMains, & Crowe, 2002; Chandler, 1995; Harris & Alley, 2000; Jaffee & Epstein, 1992; McEwen, 1995; Powell, 1994; Punwar and Peloquin, 2000). Foto (1996) summarized the argument favoring specialization, "to

assure the highest quality of care, we must become specialists ... the knowledge and skills specific to the individual populations we serve are required to appropriately serve them” (p. 171). The current study supports the position that a generalist preparation is not viewed as sufficient to prepare OTs for practice in schools. Responses of the Minnesota school-based OTs clearly indicated a substantial discrepancy between the reported degree of preparation for and requirements of school-based practice.

Additionally, results of the present study as well as results from previous research reveal that school-based occupational therapists continue to view their pre-service program experiences as not having sufficiently prepared them for work as a school-based OT. Some degree of specialized preparation or specialized continuing professional education and support seems warranted, not only to support the OTs but also to ensure high standards of practice and effectiveness for children served by OTs in school-based settings. Review and consideration of policy changes by the American Occupational Therapy Association, as well as by state and federal agencies, might strengthen the capacities of OTs.

Implications for future action include both policy and practice changes. The creation of standards for practice in school settings by professional organizations or by federal and state agencies has the potential to drive practice changes. These include a standard school-based curriculum across pre-preparation programs, licensure or specialty certification for school-based practice, and employer-based programs of mentoring, shadowing, fieldwork, and self-study. Standards have the potential for individual measurement of knowledge and skills. Future research might include studies with a

broader population of school-based OTs to affirm the consistency of the knowledge areas for other populations of school-based OTs and research that connects school-based knowledge areas with competence.

Occupational Therapy Practice Profile and Parameters

Data from the present study provided a practice profile and illuminated employment contexts and conditions of occupational therapists currently working in Minnesota schools. Few other studies have resulted in a practice profile or description of the working conditions for OTs in school-based practice. Regional studies and studies with small samples provided very limited data. However, four national studies included selected practice information about school-based OTs that provide context for comparison to the current study. Comparative data in this section are organized topically: education and background, demographics, and work parameters.

Education and background. Four national studies provided data concerning education and background of their OT participants. They are cited following data from the current study.

The vast majority (71%) of OTs in the current study entered the field of occupational therapy with a bachelor's degree, a quarter (25%) with a master's degree and just four percent with a certificate. Almost two thirds currently held a master's degree and about one third a bachelor's degree.

In AOTA's national School-Based Practice Survey (Chandler, 1994), 63% of 833 respondents reportedly held a bachelor's degree and 36% reported some graduate education. In another national study of 450 school-based OTs, Brandenburger-Shasby

(2000) reported data on entry-level degree (71% bachelor's, 27% master's, 2% certificate) and advanced degrees. At the time of her study 41% held a master's degree. The American Occupational Therapy Association monitors and researches the occupational therapy profession to maintain updated data for its members. The two most recent reports, the Occupational Therapy Workforce and Compensation Report (2006) and the Occupational Therapy Compensation and Workforce Study (2010), contain profile data that is reported for all work settings and for each of 10 workplace settings, including schools. Large sample sizes characterize these studies (approximately 3,000 in 2006 and 10,000 in 2010). In 2006, 60% reported a bachelor's degree and 36% a master's degree as their highest earned degree. In 2010, OTs reporting a bachelor's degree (42%) and a master's degree (41%) were nearly equal. In addition, 2% reported a doctorate.

The current study provided data on the graduation year of participants. The percentage of respondents who graduated in the 1970s, 1980s, and 1990s was about the same for each decade, ranging from 27-30% of respondents. Only 16% of respondents graduated from the years 2000 to 2009. Slightly more than half (60%) had 16 or more years of experience as practicing OTs and about half (47%) had 16 or more years experience in school-based practice. Graduation years reported for the participants in the Brandenburger-Shasby study were approximately a third in each of three 10 year spans from 1970 to 1999). Brandenburger-Shasby reported that study participants had an average of 13.5 years experience as an OT in all settings and 8.5 years experience as a school-based OT. In AOTA's national School-Based Practice Survey (Chandler, 1994), occupational therapists who responded to the survey had a mean of 15 years of

professional experience with nine of those in school-based practice. Although the Workforce and Compensation Report (2006) did not offer comparative data, the Occupational Therapy Compensation and Workforce Study (2010) reported an average of 12 years total experience as an OT and 6 years experience in their current setting.

Demographics. The current study offered a detailed view of practice location, with results that differ somewhat from the national studies and perhaps reflect a demographic pattern unique to Minnesota. Therapists were relatively evenly distributed among demographic locations with 20-25% in each of three locales, i.e., urban, suburban and small towns. Only 10% were employed in rural areas. In AOTA's national School-Based Practice Survey (Chandler, 1994) practice locations reported for school-based OTs were: 26% urban, 46% suburban, and 26% rural areas. For the Occupational Therapy Workforce and Compensation Report (2006) practice locations were similarly 24% urban, 50% suburban, and 24% rural as were the Compensation and Workforce Study's (2010) school-based OTs demographic settings: 26% urban, 52% suburban and 26% rural. The Early Intervention practice locations (included in 2006 but reported separately in 2010) differed somewhat, with 47% urban, 37% suburban and 14% rural reported.

Work and caseload parameters. In the current study, the vast majority of respondents were supervised by someone other than an occupational therapist and about half supervised assistants. The majority of OTs reported caseloads of 36 or more students and served six or more disability groups. More than 80% served students with the following educational labels: ASD (Autism Spectrum Disorder), DCD (Developmental Cognitive Disability), EBD (Emotional Behavioral Disability), PI (Physically Impaired),

ECSE (Early Childhood Special Education) 3-6 years, and SLD (Specific Learning Disability). Half served three to five of the five age ranges of students, which included the following: Preschool (birth to six years), Elementary, Middle or Junior High School, High School, and Transition. The responding OTs reported spending 50% or more of their time providing direct service to students and 25% of their time meeting or consulting with team members and 25% of their time with recordkeeping or paperwork.

In AOTA's national School-Based Practice Survey (Chandler, 1994), most school-based OTs (68%) worked directly for the school district and three quarters worked full time. Students in the following disability categories were most frequently seen: learning disability (28% of student load), mental retardation (27%), multiple disabilities (27%), speech and language impairment (23%) and orthopedic impairment (19%). Caseloads were often set by administrators or state law and ranged from a minimum of 28 to a maximum of 36. The full-time OTs reported that most of their time was spent implementing services to students. They spent 53% of their time implementing interventions (7% of this time for documentation), 13% assessing students, 8% traveling, 10% meeting, and 4% supervising).

In the Brandenburger-Shasby (2000) study a similar percentage (67%) to that of respondents to the Chandler study reported working full time in the school setting. No other work parameters were measured or reported. Occupational therapists in the Occupational Therapy Workforce and Compensation Report (2006) spent 93% of their time providing direct services, 30% of their time providing indirect services, and 4% consulting and providing other services. In 2010 they spent 63% of their time providing

direct services, 20% providing indirect services and 14% consulting and providing other services.

As indicated from the studies referenced above, the occupational therapy literature has provided elements of a practice profile for the school-based OT. Data from the current study offers more specificity to that profile for OTs working in Minnesota schools. Although a direct comparison is not possible due to differences in populations studied and circumstances surrounding the studies, the following trends are observed. Demographic work locations are similar for three of the national studies, but differ from the current study in which fewer OTs reported working in rural settings, although this might have been due to categorical variance. Occupational therapists employed in Minnesota schools report more experience as an OT in all settings and in schools. More occupational therapists in school-based practice have a master's degree, required for entry level by the AOTA for all OTs. Caseloads are reportedly larger and the number of disability categories served has increased. The amount of time spent in direct service to students has decreased, while indirect and consultation services have increased, perhaps due to the large increase in documentation and paperwork. If these trends are accurate, the job of an OT in school-based practice has become more challenging than in the past.

Implications of the findings of this study include changes in policies to define caseload and workload levels and educational practices that support school-based OTs' knowledge and skills in an expanding practice. Limitations on the number of educational labels served, as well as age ranges and total numbers of students served, has the potential not only to reduce the expansive amount of knowledge needed for the large

number of educational labels served but to increase the quality of service to those groups. Regularly scheduled professional learning opportunities planned with OTs locally and regionally might allow for continuous updating as changes occur in school-based practice. Further studies concerning changing practice parameters are also recommended.

Continuous Professional Learning Experiences and Preferences

Occupational therapists working in Minnesota schools consider all past and future learning experiences as valuable. The majority reported spending 30 or fewer hours engaged in professional learning each year and about half reported spending three or fewer hours talking about students with other OTs. The largest barriers to continuous professional learning were identified as cost, distance to a learning experience and the relevance to school-based practice.

Learning designs preferred by school-based OTs were related to the location (context) of the professional learning activity, specifically whether the learning experience was expected to occur within their school/district or outside of their district. Preferred future learning experiences within their school/district include conversations with OTs, workshops and study groups. Preferred future learning experiences outside their district include workshops, formal learning experiences and the use of technology. Overwhelmingly, OTs who responded to the survey in the present study indicated a strong preference for local opportunities to share and learn from other OTs.

Continuous professional learning is required to maintain licensure and certification and for ethical practice. AOTA defines ethical practice as a set of 7 principles guiding practice, such as “... be competent in all topic areas in which they

provide instruction to consumers, peers, and/or students ...” (AOTA, 2005a). Clock hour requirements are defined by the Minnesota Department of Health for state licensure and the NBCOT for those who continue to seek certification in occupational therapy. Broad guidance is given on content for all OTs. Two important points are made in the literature: 1) after initial certification or licensure there are no standard educational programs, uniform standards, or quality control standards (Grossman, 1998) and 2) professional competence is most often validated through participation in continuing education activities, though the literature suggests that this does not guarantee competence (Umble & Cervero, 1996).

The AOTA’s *Standards for Continuing Competence* and *Code of Ethics* guide practitioners in maintaining high standards of competence. The *Standards* recognize continuing competence as a component of professional development and a dynamic process of developing and maintaining the knowledge, performance, and interpersonal abilities and the critical and ethical reasoning skills necessary to perform current and future roles and responsibilities. The *Code of Ethics* also guides practitioners to be competent in all topics in which they provide instruction to others. While these directives are helpful, without a definition of the knowledge and skills required for practice in specific settings, such as schools, the practitioner may not have a standard with which to measure their competence.

Beyond these requirements and guidelines the occupational therapy literature provides general concerns and information, a few studies on content, context and processes used in continuing education, but very little useful information on continuing

professional education for school-based practitioners. The studies or parts of studies that were found regarding continuing education for OTs are summarized below along with their connections to the current study.

Brandenburger-Shasby (2000) reported that workshops were mentioned by 75% of entry level and experienced school-based OTs as playing a role in their preparation for their practice. In addition, about half (54%) of the OTs who had experience and about three quarters (71-80%) who were entry level chose the informal method of mentoring as important to their learning. A study by Andersen (2000) revealed that Florida school-based occupational therapists perceived that formal educational programs of one or more days had more impact than most informal activities. However, informal activities including mentoring, observing skilled practitioners and on the job learning were perceived to be more effective than formal programs of less than a day. Although the current study does not discern the professional development preferences of entry level vs. experienced OTs, it does provide data specific to the needs of OTs working in Minnesota schools. Similarities exist in preferences in regard to both formal (structured learning, i.e. workshops) and informal (e.g., mentoring, observing, reading literature) activities, with the current study providing more clarity about where and how those preferred activities might occur.

Rainville et al. (1996) studied supervision and consultation for pediatric OTs (three quarters of whom self-identified as school-based) in Massachusetts. Most (73%) survey respondents had a supervisor other than a registered OT. Rainville reported that current professional development strategies appeared insufficient to meet the needs of

practicing therapists and concluded that pediatric and school-based occupational therapists needed consultation and supervision from therapists with advanced experience or expertise in addition to traditional management and training. The current study confirms the position that current professional development strategies are insufficient to meet the needs of practicing therapists in school settings and extends the knowledge about the contexts and processes most desired by those that work in those settings in Minnesota.

A study by Slater and Cohen (1991) provided one model for continuing professional education. The researchers designed a professional education program for OTs in a hospital setting using ongoing reflection on practice in the work environment. A case study approach with role models was used to focus on skills relevant to the job environment and to operationalize knowledge learned through continuing education. They proposed the model for other settings. In the current study, conversations, study groups, and workshops, were favored by OTs for professional learning in their school or district. Case studies might be used in study groups or conversations to support current practice; video conferencing could include OTs in small towns and rural settings.

In the national study, *Personnel Issues in School-Based Occupational Therapy: Supply and Demand, Preparation, Certification and Licensure*, Swinth et al. (2003) summarized the unanswered questions surrounding certification and licensure in school-based occupational therapy settings: 1) what types of continuing education courses and content are needed to support the school-based practitioner? 2) what are the preferences for delivery of continuing education? And 3) what is the value of continuing education

and/or specialty certification in improved services in the schools? The current study answers questions about content and processes preferred by OTs currently working in Minnesota schools.

Implications for future action include both policy and practice changes by professional organizations or by federal and state agencies. Development of standards of practice for OTs in school-based settings and a system for regular updating are indicated. Continuous professional learning specifically designed for school-based OTs, using preferred designs both inside and outside of school/ district settings, is needed. The learning experiences might be better defined by targeting experience levels, school-based knowledge areas or student education labels. Future research is needed to measure the value of continuing education and specialty certification or licensure, to confirm and to extend the current study findings to other states, and to link competence with professional learning.

Summary

The purpose of this study was to inform pre-service programs, employers of school-based OTs, and continuing professional education providers about specific strengths and needs in school-based occupational therapists' preparation and on-going learning needs for practice in schools. Descriptive research using a survey was used to discover knowledge areas important to school-based practice and the preferred methods of delivery of continuous professional learning both in and outside of the school or district setting.

After rating 19 areas of occupational therapy knowledge and practice identified as important to school-based settings, OTs indicated their exposure to the areas in their pre-service coursework and fieldwork. Although the vast majority of school-based OTs reported exposure to pediatric related coursework, more than half reported no coursework related to the school-based practice areas. Responses suggested a lack of preparation by their pre-service program alone for practice in schools. Given that generalist preparation is largely viewed as the intent of pre-preparation programs, an expectation of vastly improved school-based preparation during pre-service preparation appears improbable.

Preferences for delivery of continuing professional education, reported by responding school-based OTs, include regularly scheduled professional conversations with OTs in the same school or district and formal workshops of one to three days in any location; barriers include cost of continuing education courses and distance to quality school-based professional education. Time and structure for professional conversations within a school or district could support school-based OTs in their professional learning.

School-based practice is one of the largest practice areas for occupational therapists. Lack of pre-service preparation and lack of a structure for obtaining the knowledge and skills needed for practice in schools suggests both policy and practice changes for government bodies, professional organizations, pre-service programs, employers, professional development providers, and practitioners.

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APPENDICES

Appendix A

Knowledge, Skills, and Practice Domains for School-Based Occupational Therapists

Knowledge, Skills, Abilities	References
Defining the context and purpose of school-based practice	
<ul style="list-style-type: none"> Defining and describing school-based practice 	Block & Chandler, 2005; Brandenburger-Shasby, 2005; Bundy, 1997; Burtner, McMain & Crowe, 2002; Chandler, 1995; Royeen & Furbush, 1996; Sarracino & Hanft, 1996; Swinth, Chandler, Hanft, Jackson & Shepard, 2003
<ul style="list-style-type: none"> Understanding schools 	AOTA, 2004b; Bell & Swinth, 2005; Block & Chandler, 2005; Chandler, 1998, 2005, 2006; Golubock & Chandler, 1998; Harris & Alley, 2000; Punwar & Peloquin, 2000; Rainville, et al., 1996; Royeen & Furbush, 1996; Sarracino & Hanft, 1996; York, Rainforth & Dunn, 1990
Describing theories and frames of reference used in school-based practice	
<ul style="list-style-type: none"> Theories 	Bundy, 1997; Golubock & Chandler, 1998; Rainville, et al., 1996; Royeen & Furbush, 1996
<ul style="list-style-type: none"> Frames of reference 	Royeen & Furbush, 1996; Sarracino & Hanft, 1996; Swinth, Chandler, Hanft, Jackson & Shepard, 2003
Understanding laws and regulations guiding school-based practice	
<ul style="list-style-type: none"> IDEA/ IDEIA 	AOTA, 2004a; AOTA, 2004b; Case-Smith, 2005; Chandler, 1995; Golubock & Chandler, 1998; Hall, Robertson & Turner, 1992; MDCFL, 2002; Moser, 2004; Muhlenhaupt, Miller, Sanders & Swinth, 1998; Punwar & Peloquin, 2000; Struck, 2003
<ul style="list-style-type: none"> 504 	AOTA, 2004a; AOTA, 2004b; Case-Smith, 2005; MDCFL, 2002

• ADA	AOTA, 2004b; Case-Smith, 2005; MDCFL, 2002
• NCLB	Moser, 2004
Understanding school-age students with disabilities	
• Growth and development of children	Punwar & Peloquin, 2000; Royeen & Furbush, 1996
• Student occupations	AOTA, 2004b; MDFL, 2002; TASH, 2003
• Medical diagnoses	Golubock and Chandler, 1998; Brandenburger-Shasby, 2005; Punwar & Peloquin, 2000
• Educational labels	AOTA, 2004b; MDCFL, 2002; Rainville, et al., 1996
• Cultural competence	AOTA, 2004b; TASH, 2003
Conducting assessments of student performance	
• Appropriate assessment tools	Brandenburger-Shasby, 2005; Burtner, McMain & Crowe, 2002; Golubock and Chandler, 1998; Rainville, et al., 1996; Royeen & Furbush, 1996; Swinth, Chandler, Hanft, Jackson & Shepard, 2003; TASH, 2003
• Observation	AOTA, 2004b; Brandenburger-Shasby, 2005; Chandler, 1994
• Interviews	AOTA, 2004b; Brandenburger-Shasby, 2005; Chandler, 1994
Writing Individual Educational Plans (IEPs) and related documentation	
• Present levels of performance	Brandenburger-Shasby, 2005
• Goals	Royeen & Furbush, 1996; AOTA, 2004
• Outcome measures	AOTA, 2004b; Bundy, 1997; Chandler, 1995; Punwar & Peloquin, 2000; TASH, 2003
• Service level	AOTA, 2004b; Brandenburger-Shasby, 2005; Chandler, 1994, 1995; Golubock & Chandler, 1998; Punwar & Peloquin, 2000; Rainville, et al., 1996; Royeen & Furbush, 1996; Swinth, Chandler, Hanft, Jackson & Shepard, 2003; TASH, 2003
• Documentation	Brandenburger-Shasby, 2005; Chandler, 1994, 1995; Golubock & Chandler, 1998; Hall, Robertson & Turner, 1992; Royeen & Furbush, 1996

Designing and providing appropriate interventions	Chandler, 1998; Golubock & Chandler, 1998; Rainville, et al., 1996
<ul style="list-style-type: none"> Educational relevance 	AOTA, 2004b; Bell & Swinth, 2005; Bundy, 1997; Drummond, 1996; Dunn & Westman, 1995; Punwar & Peloquin, 2000; Royeen & Furbush, 1996; Swinth, Chandler, Hanft, Jackson & Shepard, 2003; TASH, 2003
<ul style="list-style-type: none"> Best practice 	AOTA, 2004b; Block & Chandler, 2005; Moser, 2004; Royeen & Furbush, 1996; TASH, 2003
<ul style="list-style-type: none"> Administrative issues 	Chandler, 1994, 1995
<ul style="list-style-type: none"> Equipment and assistive technology 	AOTA, 2004 a, b; Brandenburger-Shasby, 2005; Bundy, 1997; Chandler, 1994; Dunn & Westman, 1995
<ul style="list-style-type: none"> Transitions 	Brandenburger-Shasby, 2005; Chandler, 1994, 1995; Golubock & Chandler, 1998; TASH, 2003
Demonstrating effective personal and interpersonal skills	
<ul style="list-style-type: none"> Personal skills 	
<ol style="list-style-type: none"> Administrative skills 	Chandler, 1994, 1995
<ol style="list-style-type: none"> Organizational skills 	Golubock & Chandler, 1998
<ol style="list-style-type: none"> Supervision/ mentoring 	AOTA, 2004b; Chandler, 1994; Drummond, 1996; Golubock & Chandler, 1998; Punwar & Peloquin, 2000
<ol style="list-style-type: none"> Delineating roles 	Rainville, et al., 1996; Spillane and Sterling, 1996
<ol style="list-style-type: none"> Flexibility 	Royeen & Furbush, 1996
<ul style="list-style-type: none"> Interpersonal skills 	
<ol style="list-style-type: none"> Consultation 	AOTA 2004b; Brandenburger-Shasby, 2005; Bundy, 1997; Drummond, 1996; Rainville, et al., 1996; Royeen & Furbush, 1996; Swinth, Chandler, Hanft, Jackson & Shepard, 2003
<ol style="list-style-type: none"> Communicating effectively 	Brandenburger-Shasby, 2005; Block & Chandler, 2005; Chandler, 1994, 1998; Dunn & Westman 1995; Golubock & Chandler, 1998; Muhlenhaupt, Miller, Sanders & Swinth, 1998; Punwar & Peloquin, 2000; Royeen & Furbush, 1996; Swinth, Chandler, Hanft, Jackson & Shepard 2003

3. Teaming/ collaboration	AOTA, 2004b; Brandenburger-Shasby, 2005; Bundy, 1997; Chandler, 1994, 1998; Dunn & Westman, 1995; Punwar & Peloquin, 2000; Sarracino & Hanft, 1996; SDCFL, 1996; Struck, 2003; Swinth, Chandler, Hanft, Jackson & Shepard, 2003; TASH, 2003
4. Teaching	Bundy, 1997

Appendix B

Minnesota Statutes

Minnesota Statutes 2005, Table of Chapters

Table of contents for Chapter 122A

122A.60 Staff development program.

Subdivision 1. Staff development committee. A school board must use the revenue authorized in section 122A.61 for in-service education for programs under section 120B.22, subdivision 2, or for staff development plans under this section. The board must establish an advisory staff development committee to develop the plan, assist site professional development teams in developing a site plan consistent with the goals of the plan, and evaluate staff development efforts at the site level. A majority of the advisory committee and the site professional development team must be teachers representing various grade levels, subject areas, and special education. The advisory committee must also include nonteaching staff, parents, and administrators.

Subd. 1a. Effective staff development activities. (a) Staff development activities must:

- (1) focus on the school classroom and research-based strategies that improve student learning;
- (2) provide opportunities for teachers to practice and improve their instructional skills over time;
- (3) provide opportunities for teachers to use student data as part of their daily work to increase student achievement;
- (4) enhance teacher content knowledge and instructional skills;
- (5) align with state and local academic standards;
- (6) provide opportunities to build professional relationships, foster collaboration among principals and staff who provide instruction, and provide opportunities for teacher-to-teacher mentoring; and
- (7) align with the plan of the district or site for an alternative teacher professional pay system.

Staff development activities may include curriculum development and curriculum training programs, and activities that provide teachers and other members of site-based

teams training to enhance team performance. The school district also may implement other staff development activities required by law and activities associated with professional teacher compensation models.

(b) Release time provided for teachers to supervise students on field trips and school activities, or independent tasks not associated with enhancing the teacher's knowledge and instructional skills, such as preparing report cards, calculating grades, or organizing classroom materials, may not be counted as staff development time that is financed with staff development reserved revenue under section 122A.61.

Subd. 2. Contents of the plan. The plan must include the staff development outcomes under subdivision 3, the means to achieve the outcomes, and procedures for evaluating progress at each school site toward meeting education outcomes.

Subd. 3. Staff development outcomes. The advisory staff development committee must adopt a staff development plan for improving student achievement. The plan must be consistent with education outcomes that the school board determines. The plan must include ongoing staff development activities that contribute toward continuous improvement in achievement of the following goals:

(1) improve student achievement of state and local education standards in all areas of the curriculum by using best practices methods;

(2) effectively meet the needs of a diverse student population, including at-risk children, children with disabilities, and gifted children, within the regular classroom and other settings;

(3) provide an inclusive curriculum for a racially, ethnically, and culturally diverse student population that is consistent with the state education diversity rule and the district's education diversity plan;

(4) improve staff collaboration and develop mentoring and peer coaching programs for teachers new to the school or district;

(5) effectively teach and model violence prevention policy and curriculum that address early intervention alternatives, issues of harassment, and teach nonviolent alternatives for conflict resolution; and

(6) provide teachers and other members of site-based management teams with appropriate management and financial management skills.

Subd. 4. Staff development report. (a) By October 15 of each year, the district and site staff development committees shall write and submit a report of staff development activities and expenditures for the previous year, in the form and manner determined by

the commissioner. The report, signed by the district superintendent and staff development chair, must include assessment and evaluation data indicating progress toward district and site staff development goals based on teaching and learning outcomes, including the percentage of teachers and other staff involved in instruction who participate in effective staff development activities under subdivision 3.

(b) The report must break down expenditures for:

(1) curriculum development and curriculum training programs; and

(2) staff development training models, workshops, and conferences, and the cost of releasing teachers or providing substitute teachers for staff development purposes.

The report also must indicate whether the expenditures were incurred at the district level or the school site level, and whether the school site expenditures were made possible by grants to school sites that demonstrate exemplary use of allocated staff development revenue. These expenditures must be reported using the uniform financial and accounting and reporting standards.

(c) The commissioner shall report the staff development progress and expenditure data to the house of representatives and senate committees having jurisdiction over education by February 15 each year.

HIST: 1Sp1985 c 12 art 8 s 23,61; 1987 c 398 art 8 s 27,28; 1Sp1987 c 4 art 1 s 3; 1988 c 486 s 73,74; 1990 c 562 art 4 s 8; 1991 c 265 art 7 s 30-32; 1992 c 499 art 1 s 19; 1992 c 571 art 10 s 4,5; 1993 c 224 art 7 s 24; 1994 c 647 art 7 s 10,11; 1Sp1995 c 3 art 8 s 9; 1996 c 412 art 9 s 11; 1998 c 397 art 8 s 95,96,101; art 11 s 3; 1998 c 398 art 5 s 13; 1999 c 241 art 5 s 3; 1999 c 241 art 9 s 17; 1Sp2005 c 5 art 2 s 44-46

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Appendix C

Survey Recruitment Letter to Directors of Special Education

Dear Special Education Director,

Your school-based occupational therapists are invited to be in a research study about the continuing professional education needs of occupational therapists (OTs) working in Minnesota schools. More specifically, to discern what school-based OTs feel they need to learn as well as how the content is best delivered, in the formats preferred by school-based practitioners.

I am e-mailing you because your contact information is publicly available on the Minnesota Department of Education website while the names and contact information of occupational therapists who work in Minnesota schools is not available on any list serve or publicly available list. I would be grateful if you would pass along this introductory letter containing a link to the survey to the OTs working in your district. A high response rate will make the research more valuable to occupational therapists, continuing professional educators, professors of higher education OT programs and other constituent groups.

Thank you for your assistance,

Connie J Good MA, OTR/L
Doctoral Candidate
Department of Educational Policy and Administration
University of Minnesota
Good0165@umn.edu

Appendix D

Survey Recruitment Letter to Occupational Therapists

Dear Colleagues,

I am an occupational therapist who has worked in school-based practice for over 25 years. From experience, I know both the value of our practice in this area and the challenges associated with it. Through my doctoral thesis, I want to support current and future occupational therapists in school-based practice by discerning the continuing professional development needs of occupational therapists working in Minnesota schools. More specifically, to discern what school-based occupational therapists feel they need to learn as well as how the content is delivered, in the formats preferred by school-based practitioners. Information about your pre-service preparation for school-based practice and current on-going learning needs will be shared with occupational therapy programs, continuing professional education providers, and other interested stakeholders.

I recognize that completing this survey requires the use of your valuable time. Your participation is very important for gaining a better understanding of pre-service and continuing professional education practices for school-based occupational therapists in Minnesota. A high response rate and more valid findings will be achieved as more therapists respond to this survey.

Your participation is greatly needed and appreciated. After you submit the survey, please send a separate e-mail to Connie J. Good to be entered into a drawing for a gift card in the amount of \$50 to Barnes and Noble booksellers. There will be 3 gift cards awarded.

Your responses will remain anonymous. Should you have any questions as you respond to the survey, please feel free to contact Connie J. Good MA, OTR/L Doctoral Candidate in Educational Policy and Administration at the University of Minnesota (good0165@umn.edu) or 651-653-1191.

To access the survey at this time, please click on the following link, which will take you directly to the survey. There will be an introduction and brief directions for taking the survey. When you have completed the survey, which should take you 20-25 minutes, please click on the SUBMIT button at the bottom of the page, so that your responses are recorded. Thank You!

(Link to Survey Here)

Appendix E

Continuing Professional Education for School-based Occupational Therapists Survey Consent Form

You are invited to be in a research study about the continuing professional education needs of occupational therapists (OTs) working in Minnesota schools. More specifically, to discern what school-based OTs feel they need to learn as well as how the content is best delivered, in the formats preferred by school-based practitioners. You have been selected as a possible participant because your special education director has identified you as an OT working in his/ her school district. Please read this form and ask any questions you may have before agreeing to be in the study.

This study is being conducted by Connie J. Good, a doctoral candidate at the University of Minnesota in the Department of Educational Policy and Administration. She is working under the guidance of her dissertation committee, led by advisor Dr. Jennifer York-Barr.

Background Information

Though a significant and growing number of occupational therapists work in schools, little information is available about their continuing professional development needs. This study will identify the pre-service and continuous learning needs of occupational therapists currently working in Minnesota schools. The purpose of this study is to delineate the specific strengths and needs in school-based occupational therapists' preparation and on-going learning needs for practice in schools to inform pre-service programs and continuing professional development providers about the learning needs of school-based occupational therapists.

There will be two types of data collected for this study: survey data and interview data. Occupational therapists working in schools will be invited to take a survey and both professors of higher education occupational therapy programs and professional development providers will be asked to participate in semi-structured interviews.

Procedures

If you agree to be in the study I ask you to do the following: complete the survey and submit it by clicking on the "Submit" button at the end of the survey. This survey has 29 questions, in a forced choice and short answer format, with one open-ended question. Questions ask about pre-service preparation, current practice, content and preferred delivery format for continuing professional education and demographic information. The survey will require about 20-25 minutes to complete and responses will be anonymous.

Risks and Benefits of Being in the Study

While this study does not have significant risks, you should be aware of the following. Although responses are anonymous, you are asked to indicate specific information about your professional preparation, current work situation and experiences. This allows the researcher and readers of research to determine whether there are different views given respondents' particular background and experiences (e.g., graduation year, professional experiences, geographic work location) which will be helpful in making sense of the responses. The risk incurred with this type of identification is that local readers of a report that emerges from this study may know that you are a member of a particular group and, therefore, may assume that you subscribe to the majority view in that group.

The benefits to participation are the opportunity to reflect on your pre-service preparation program and continuing professional development and offer your views about your on-going professional learning needs. This would be of great assistance in advancing the knowledge base about the content and delivery of professional development for occupational therapists in school-based practice.

Compensation

You will receive no monetary compensation for your participation.

Confidentiality

Connie J. Good and her doctoral committee members at the University of Minnesota will maintain access to the data collected as part of the survey process. Records of this study will be kept private. Reports of this study will not include information that will make it possible to identify a subject. Research records will be stored securely and only researchers will have access to the records.

Voluntary Nature of the Study

Participation in this study is voluntary. Your decision to participate or not will not affect your current or future relationship with the University of Minnesota. If you decide to participate, you are free to not answer any question or withdraw at any time without affecting those relationships.

Contacts and Questions

The primary researcher conducting this study is Connie J. Good, a doctoral candidate in the Department of Educational Policy and Administration at the University of Minnesota. Her advisor is Jennifer York-Barr, PhD.

If you have questions either now or at a later date, **you are encouraged** to contact the researcher by phoning (651) 653-1191 or e-mailing good0165@umn.edu or Jennifer York-Barr, PhD at the University of Minnesota by phoning (612) 625-6387 or e-mailing yorkx001@umn.edu.

If you have any questions or concerns regarding this study and would like to talk to someone other than the researcher(s), **you are encouraged** to contact the research Subjects' Advocate Line, D528 Mayo, 420 Delaware Street Southeast, Minneapolis, Minnesota 55455; (612) 625-1650.

You may print a copy of this information for your records.

Statement of Consent

I have read the above information. I have had the opportunity to ask questions and receive answers. By completion of this survey, I consent to participate in the study.

Appendix F

Survey of Minnesota Occupational Therapists in School-Based Practice

Section I
Your Work and Students

1. I am:				An OTR	A COTA
2. For the 2008-2009 school year, indicate the amount of time you work as an occupational therapist in school-based practice (SBP)?	Less than 25% time	About 25% time	About half time	About 75% time	Full time
3. My school-based practice is in 1 school district				Yes	No
4. In addition to SBP, I work in the following other settings (check all that apply)	N/A	Hospital	Pediatric Clinic	Nursing Home	Private Practice
5. For the 2008-2009 school year, indicate the total number of students on your caseload	1-5 students	6-10 students	11-20 students	21-35 students	36 or more students
6. For the 2008-2009 school year, indicate the number of students on your caseload in each of the age range categories below:					
a. Preschool age (birth to 6 years)	0 students	1-10 students	11-20 students	21-35 students	36 or more students
b. Elementary	0 students	1-10 students	11-20 students	21-35 students	36 or more students
c. Middle or Junior High	0 students	1-10 students	11-20 students	21-35 students	36 or more students
d. High School	0 students	1-10 students	11-20 students	21-35 students	36 or more students
e. Transition	0 students	1-10 students	11-20 students	21-35 students	36 or more students
7. For the 2008-2009 school year, indicate the number of students on your caseload whose primary disability is identified as follows:					
a. Autism Spectrum Disorder (ASD)	0 students	1-5 students	6-10 students	11-20 students	21 or more students

b. Deaf/ Blind (DB)	0 students	1-5 students	6-10 students	11-20 students	21 or more students
c. Deaf/ Hard of Hearing (D/HH)	0 students	1-5 students	6-10 students	11-20 students	21 or more students
d. Developmental Cognitive Disability (DCD)	0 students	1-5 students	6-10 students	11-20 students	21 or more students
e. Early Childhood Special Education (ECSE) B-2 years	0 students	1-5 students	6-10 students	11-20 students	21 or more students
f. Early Childhood Special Education (ECSE) 3-6 years	0 students	1-5 students	6-10 students	11-20 students	21 or more students
g. Emotional Behavioral Disability (EBD)	0 students	1-5 students	6-10 students	11-20 students	21 or more students
h. Other Health Disability (OHD)	0 students	1-5 students	6-10 students	11-20 students	21 or more students
i. Physically Impaired (PI)	0 students	1-5 students	6-10 students	11-20 students	21 or more students
j. Severely Multiply Impaired (SMI)	0 students	1-5 students	6-10 students	11-20 students	21 or more students
k. Specific Learning Disability (SLD)	0 students	1-5 students	6-10 students	11-20 students	21 or more students
l. Traumatic Brain Injury (TBI)	0 students	1-5 students	6-10 students	11-20 students	21 or more students
m. Visually Impaired (VI)	0 students	1-5 students	6-10 students	11-20 students	21 or more students

Section II
Pre-Service Occupational Therapy Preparation

8. Related to your pre-service OT preparation program, indicate the amount of coursework and fieldwork you received in each of the following areas of practice.					
a. Pediatrics: typical growth and development of children			No coursework	Some coursework	Much coursework
			No fieldwork	Fieldwork I	Fieldwork II
b. Pediatrics: atypical growth and development in children			No coursework	Some coursework	Much coursework
			No fieldwork	Fieldwork I	Fieldwork II
c. Pediatrics: assessment			No coursework	Some coursework	Much coursework

			No fieldwork	Fieldwork I	Fieldwork II
d. Pediatrics: occupational therapy interventions			No coursework	Some coursework	Much coursework
			No fieldwork	Fieldwork I	Fieldwork II
e. School-based practice (SBP): general			No coursework	Some coursework	Much coursework
			No fieldwork	Fieldwork I	Fieldwork II
f. SBP: special education and related services (purpose and laws)			No coursework	Some coursework	Much coursework
			No fieldwork	Fieldwork I	Fieldwork II
g. SBP: frameworks for OT practice in schools			No coursework	Some coursework	Much coursework
			No fieldwork	Fieldwork I	Fieldwork II
h. SBP: occupations of children in schools			No coursework	Some coursework	Much coursework
			No fieldwork	Fieldwork I	Fieldwork II
i. SBP: general education curriculum and expectations			No coursework	Some coursework	Much coursework
			No fieldwork	Fieldwork I	Fieldwork II
j. SBP: variations in OT depending on age of students (e.g., preschool, school-age, adolescence, transitions)			No coursework	Some coursework	Much coursework
			No fieldwork	Fieldwork I	Fieldwork II
k. SBP: educationally related OT assessments (e.g., observations, interviews, activity-based/functional assessments)			No coursework	Some coursework	Much coursework
			No fieldwork	Fieldwork I	Fieldwork II
l. SBP: educationally related OT interventions			No coursework	Some coursework	Much coursework
			No fieldwork	Fieldwork I	Fieldwork II
m. SBP: accommodations (including equipment and technology)			No coursework	Some coursework	Much coursework

			No fieldwork	Fieldwork I	Fieldwork II
n. SBP: referrals, assessments and educational labeling of children			No coursework	Some coursework	Much coursework
			No fieldwork	Fieldwork I	Fieldwork II
o. SBP: IEPs and IIPs (IFSPs) purposes and processes			No coursework	Some coursework	Much coursework
			No fieldwork	Fieldwork I	Fieldwork II
p. SBP: documentation and reporting (e.g., of services, interventions, student progress)			No coursework	Some coursework	Much coursework
			No fieldwork	Fieldwork I	Fieldwork II
q. SBP: cultural competence in working with children and families			No coursework	Some coursework	Much coursework
			No fieldwork	Fieldwork I	Fieldwork II
r. SBP: supervision and training other providers (e.g., COTAs, teachers, others)			No coursework	Some coursework	Much coursework
			No fieldwork	Fieldwork I	Fieldwork II
s. SBP: working as member of an educational team (e.g., problem-solving, collaboration consultation)			No coursework	Some coursework	Much coursework
			No fieldwork	Fieldwork I	Fieldwork II

Section III

Importance of OT Practices in Your Employment as an OT in School-Based Practice

9. Related to your employment as an OT in school-based practice, <u>indicate the importance of each area of practice below:</u>					
a. Pediatrics: typical growth and development of children			Not very important	Somewhat important	Extremely important
b. Pediatrics: atypical growth and development of children			Not very important	Somewhat important	Extremely important
c. Pediatrics: assessment			Not very important	Somewhat important	Extremely important

d. Pediatrics: occupational therapy interventions			Not very important	Somewhat important	Extremely important
e. School-based practice (SBP): general			Not very important	Somewhat important	Extremely important
f. SBP: special education and related services (purpose and laws)			Not very important	Somewhat important	Extremely important
g. SBP: frameworks for OT practice in schools			Not very important	Somewhat important	Extremely important
h. SBP: occupations of children in schools			Not very important	Somewhat important	Extremely important
i. SBP: general education curriculum and expectations			Not very important	Somewhat important	Extremely important
j. SBP: age dependent interventions (e.g., infant, preschool, school-age, adolescence, transition)			Not very important	Somewhat important	Extremely important
k. SBP: educationally related OT assessments (e.g., observations, interviews, activity-based/ functional assessments)			Not very important	Somewhat important	Extremely important
l. SBP: educationally related OT interventions			Not very important	Somewhat important	Extremely important
m. SBP: accommodations (including equipment and technology)			Not very important	Somewhat important	Extremely important
n. SBP: referrals, assessments and educational labeling of children			Not very important	Somewhat important	Extremely important
o. SBP: IEPs and IIPs (IFSPs) purposes and processes			Not very important	Somewhat important	Extremely important
p. SBP: documentation and reporting			Not very important	Somewhat important	Extremely important
q. SBP: cultural competence in working with children and families			Not very important	Somewhat important	Extremely important
r. SBP: supervision and training of other service providers (e.g. COTAs, teachers, others)			Not very important	Somewhat important	Extremely important
s. SBP: working as a member of an educational team (e.g., problem-solving, collaboration, consultation)			Not very important	Somewhat important	Extremely important

Section IV
Continuing Professional Development and Education

10. Related to your continuing professional development as an OT in school-based practice, indicate how valuable each of the following learning methods has been for you. If you have not had the opportunity to engage in a specific type of learning, check “no opportunity”.					
a. Learning from experience on the job		Not very valuable	Somewhat valuable	Very valuable	No opportunity
b. Learning from another OT (e.g., a mentor or colleague)		Not very valuable	Somewhat valuable	Very valuable	No opportunity
c. Learning by supervising or mentoring COTAs, OT students or paraprofessionals		Not very valuable	Somewhat valuable	Very valuable	No opportunity
d. Learning from IEP or IIP members (e.g. teachers, family members, other specialists)		Not very valuable	Somewhat valuable	Very valuable	No opportunity
e. Learning within groups or networks of OTs: locally		Not very valuable	Somewhat valuable	Very valuable	No opportunity
f. Learning within groups or networks of OTs: regionally or nationally		Not very valuable	Somewhat valuable	Very valuable	No opportunity
g. College or university coursework		Not very valuable	Somewhat valuable	Very valuable	No opportunity
h. Workshops sponsored by school district or education cooperative personnel		Not very valuable	Somewhat valuable	Very valuable	No opportunity
i. Workshops sponsored by state agencies (e.g., departments of education or public health)		Not very valuable	Somewhat valuable	Very valuable	No opportunity
j. Workshops sponsored by OT professional organizations (e.g. AOTA, MOTA)		Not very valuable	Somewhat valuable	Very valuable	No opportunity
k. Workshops sponsored by private agencies or providers		Not very valuable	Somewhat valuable	Very valuable	No opportunity
l. State or national conferences		Not very valuable	Somewhat valuable	Very valuable	No opportunity
m. E-learning (e.g., on-line conversations, web or pod-casts)		Not very valuable	Somewhat valuable	Very valuable	No opportunity
n. Home study course		Not very valuable	Somewhat valuable	Very valuable	No opportunity
o. Professional literature (e.g., books, articles)		Not very valuable	Somewhat valuable	Very valuable	No opportunity

11. As you reflect on all of the ongoing professional learning experiences in which you have engaged (those mentioned above and others you have experienced), which three have been the most valuable for you? Please write them here.

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Section V

Future Learning that Would Support Your Practice

12. As you think about the types of professional learning experiences that would support your continuous professional growth as an OT in school-based practice, how would you rate the desirability of each of the following means of learning?					
a. Regularly scheduled professional conversations with other OTs in SBP to reflect on my/ our practice at my school			Not very desirable	Desirable	Very desirable
b. Regularly scheduled professional conversations with other school personnel (e.g., teachers, specialists) to reflect on my/ our practice at my school			Not very desirable	Desirable	Very desirable
c. Topically organized study groups (learning communities) with other OTs or related service providers			Not very desirable	Desirable	Very desirable
d. Topically organized study groups (learning communities) with a variety of school personnel at my school			Not very desirable	Desirable	Very desirable
e. Opportunities to observe other OTs in their SBP work (e.g. observations, videotapes, case studies, practice analyses) at my school			Not very desirable	Desirable	Very desirable
f. Being coached or mentored by an OT colleague in SBP at my school			Not very desirable	Desirable	Very desirable
g. Serving as a coach or mentor for an OT colleague in SBP at my school			Not very desirable	Desirable	Very desirable

h. Being included in workshops and other formal learning offered to other school personnel at my school			Not very desirable	Desirable	Very desirable
i. Being offered workshops and other formal learning experiences that are directly relevant to my practice at my school			Not very desirable	Desirable	Very desirable
j. Being provided with more on-line learning opportunities at my school			Not very desirable	Desirable	Very desirable
k. Regularly scheduled professional conversations with other OTs in SBP to reflect on my/ our practice within my state or region or nationally			Not very desirable	Desirable	Very desirable
l. Topically organized study groups (learning communities) with other OTs or related service providers within my state or region or nationally			Not very desirable	Desirable	Very desirable
m. Formal workshops, institutes, or mini-courses (usually 1-3 days) within my state or region or nationally			Not very desirable	Desirable	Very desirable
n. Formal college or university coursework within my state or region			Not very desirable	Desirable	Very desirable
o. On-line learning: informal (e.g., individual connections and support)			Not very desirable	Desirable	Very desirable
p. On-line learning: formal (e.g., workshops, courses, video conferences)			Not very desirable	Desirable	Very desirable
q. Pod-casts or web-casts			Not very desirable	Desirable	Very desirable
r. Formal learning materials received through the mail			Not very desirable	Desirable	Very desirable
s. Combination on-line and face-to-face learning within my state or region or nationally			Not very desirable	Desirable	Very desirable

t. Face-to-face learning within my state or region			Not very desirable	Desirable	Very desirable
u. Pursuing advanced certification by the AOTA (board or specialty)			Not very desirable	Desirable	Very desirable
v. Pursuing an advanced degree			Not very desirable	Desirable	Very desirable
13. What do you view as <u>the most desirable ways of advancing your learning within</u> your current practice setting (i.e. in your school/ district)? Please write them here.					
14. What do you view as <u>the most desirable ways of advancing your learning outside</u> of your current practice setting (I.e. outside of your school/ district)? Please write them here.					
15. How many hours per year do you engage in professional learning focused on school-based practice? Please write the hours per year.					
16. How many hours per month you spend with OT colleagues talking about the students you serve in schools? Please write the hours per month.					

Section VI

Barriers to Ongoing Professional Learning

17. To what extent does each of the following items pose barriers to you in terms of continuing your professional learning and growth as an OT in school-base practice?					
a. Access to other OTs in school-based practice			Not a barrier	Somewhat of a barrier	Significant barrier
b. Access to high quality and relevant content for OT practice in school settings			Not a barrier	Somewhat of a barrier	Significant barrier
c. Cost of a course or learning opportunity			Not a barrier	Somewhat of a barrier	Significant barrier
d. Distance required to attend conferences and seminars of interest			Not a barrier	Somewhat of a barrier	Significant barrier
e. Insufficient e-learning opportunities and support			Not a barrier	Somewhat of a barrier	Significant barrier
f. Inattention to the specific learning interests and needs of OTs by my school or district			Not a barrier	Somewhat of a barrier	Significant barrier

g. Paid time off not provided			Not a barrier	Somewhat of a barrier	Significant barrier
18. What do you view as the <u>biggest challenges to your continuing growth</u> as an OT in school-based practice? Please write them here.					

Section VII
Your Background and Employment as an OT

Please answer the following questions about your background and employment as an occupational therapist:					
19. During what span of years did you complete your OT pre-service preparation (i.e. your OT school)?		1970-1979	1980-1989	1990-1999	2000+
20. Indicate the degree at which you entered the field of OT practice		Certificate	Bachelors Degree	Masters Degree	Doctorate
21. Indicate the highest degree you have obtained			Bachelors Degree	Masters Degree	Doctorate
22. Indicate additional licenses or certifications you have obtained (check all that apply):					
a. AOTA Pediatric Board Certification				Yes	No
b. AOTA Physical Rehabilitation Board Certification				Yes	No
c. AOTA Feeding, Eating and Swallowing Specialty Certification				Yes	No
d. AOTA Low Vision Specialty Certification				Yes	No
e. Other, please specify:					
23. Indicate the approximate number of years you have been employed as an OT in any type of practice	Fewer than 5 years	Between 5 and 10 years	Between 11 and 15 years	Between 16 and 20 years	More than 20 years

24. Indicate the number of years you have been employed as an OT in School-based practice	Fewer than 5 years	Between 5 and 10 years	Between 11 and 15 years	Between 16 and 20 years	More than 20 years	
25. Which of the following best describes your employment status (meaning number of hours for which you are paid) in a school-based setting	Fewer than 5 years	Between 5 and 10 years	Between 11 and 15 years	Between 16 and 20 years	More than 20 years	
26. How many COTAs or paraprofessionals do you supervise in schools?	0	1-2	3-4	5-7	More than 7	
27. What is the title of the person who serves as your supervisor?	Occupational therapist	Physical Therapist	Speech Clinician	Special Education Director	General Education Administrator	
Other, please specify:						
28. Please indicate the percentage of time you spend each week engaged in the following activities:						
a. Direct Service to students	No time	Very little time	About 25% of the time	About 50% of the time	About 75% of the time	Greater than 75% of the time
b. Meet or consult with other team members	No time	Very little time	About 25% of the time	About 50% of the time	About 75% of the time	Greater than 75% of the time
c. Recordkeeping and paperwork	No time	Very little time	About 25% of the time	About 50% of the time	About 75% of the time	Greater than 75% of the time
d. Supervision	No time	Very little time	About 25% of the time	About 50% of the time	About 75% of the time	Greater than 75% of the time
e. Driving between schools	No time	Very little time	About 25% of the time	About 50% of the time	About 75% of the time	Greater than 75% of the time
f. Other	No time	Very little time	About 25% of the time	About 50% of the time	About 75% of the time	Greater than 75% of the time
Other, please specify other activities you typically engage in during a week:						

29. In which type of setting does the majority of your school-based practice take place?	Rural	Small-Medium Town in Greater MN	2 nd or 3 rd ring Suburban	1 st ring Suburban	Urban
30. I work in a Charter School (either full or part time)				Yes	No
31. This question is optional, but would be very helpful to the researcher in identifying district participation: In which district(s) or co-op(s) are you currently employed? (Please give number or name here)					
32. How many other OTs work in your school or district service/ agency?	0	1-2	3-5	6-10	More than 10
33. The primary purpose of this survey is to determine the continuing professional learning interests and needs of OTs in school-based practice. Please write anything else you think we should know here:					

Many thanks for taking the time to share your perspectives.

If you would like to receive an executive summary of the findings from this study, please e-mail Connie J. Good at good0165@umn.edu to indicate your interest and an e-mail address to which she can send the summary. Expect to see the summary in the Fall of 2009 or Spring 2010.

Appendix G

Caseload by Age Range^a

Preschool (n=152)	Elementary (n=137)	Middle School (n=107)	High School (n=94)	Transition (n=70)
84%	93%	75%	64%	31%

Caseload by Primary Disability^b

ASD (n=160)	DCD (n=148)	EBD (n=146)	OHD (n=137)	PI (n=142)	ECSE 3-6 (n=138)	SLD (n=136)
98%	90%	89%	89%	81%	80%	80%

SMI (n=129)	VI (n=124)	D/HH (n=122)	ECSE B-2 (n=133)	TBI (n=123)	DB (n=118)
61%	55%	53%	50%	38%	35%

^aPercentage of OTs with caseloads containing one or more students in each age range

^bPercentage of OTs with caseloads containing one or more students in each disability

Appendix H

**Importance of School-Based Practice Compared Across Cohorts
(reported in mean scores)^a**

Knowledge Area	School-Based Practice: Importance (1970-79) (n=41-42)	School-Based Practice: Importance (1980-89) (n=42)	School-Based Practice: Importance (1990-99) (n=45-46)	School-Based Practice: Importance (2000+) (n=24)
Pediatrics:				
•OT interventions	1.93	1.83	1.89	1.96
•Atypical growth and development of children	1.90	1.88	1.87	1.83
•Typical growth and development of children	1.93	1.81	1.91	1.79
•Assessment	1.90	1.81	1.89	1.79
School-Based Practice:				
•Educationally related OT interventions	2.00	1.86	1.91	1.92
•Education related OT assessments	1.90	1.83	1.93	1.96
•Accommodations	1.88	1.74	1.80	1.63
•Working as a member of an educational team	1.79	1.69	1.35	1.79
•Variations in OT depending on age of students	1.81	1.76	1.59	1.83
•Special education and related services	1.83	1.55	1.74	1.62
•IEPs, IIPs (IFSPs)	1.71	1.52	1.59	1.71
•Documentation and reporting	1.69	1.55	1.57	1.67
•Occupations of children in schools	1.66	1.50	1.50	1.63
•Frameworks for OT practice in schools	1.69	1.57	1.41	1.38
•Referrals, assessments and educational labeling of children	1.57	1.43	1.52	1.58
•Cultural competence	1.61	1.43	1.50	1.50
•Supervision and training other providers	1.45	1.38	1.50	1.54
•General education curriculum and expectations	1.76	1.21	1.35	1.25
School-Based Practice in General	1.74	1.60	1.67	1.67

^aRating Scale: 0/not very important; 1/important; 2/very important

Appendix I

**Amount of Pre-service Coursework Compared Across Cohorts
(reported in mean scores)^a**

Knowledge Area	Pre-Service Coursework: Amount (1970-79) (n=41-42)	Pre-Service Coursework: Amount (1980-89) (n=42)	Pre-Service Coursework: Amount (1990-99) (n=46)	Pre-Service Coursework: Amount (2000+) (n=24)
Pediatrics:				
• <i>OT interventions</i>	1.24	1.24	1.17	1.08
• <i>Atypical growth and development of children</i>	1.36	1.31	1.07	1.13
• <i>Typical growth and development of children</i>	1.36	1.33	1.13	1.04
• <i>Assessment</i>	1.14	1.07	1.15	1.13
School-Based Practice:				
• <i>Educationally related OT interventions</i>	0.50	0.69	0.65	0.63
• <i>Education related OT assessments</i>	0.61	0.69	0.72	0.88
• <i>Accommodations</i>	0.60	0.64	0.74	0.92
• <i>Working as a member of an educational team</i>	0.29	0.31	0.58	0.71
• <i>Variations in OT depending on age of students</i>	0.50	0.59	0.41	0.58
• <i>Special education and related services</i>	0.55	0.55	0.74	0.83
• <i>IEPs, IIPs (IFSPs)</i>	0.19	0.36	0.59	0.63
• <i>Documentation/reporting</i>	0.52	0.69	0.74	0.75
• <i>Occupations of children in schools</i>	0.37	0.59	0.65	0.83
• <i>Frameworks for OT practice in schools</i>	0.40	0.62	0.76	0.88
• <i>Referrals, assessments and educational labeling of children</i>	0.40	0.31	0.43	0.46
• <i>Cultural competence</i>	0.14	0.31	0.52	0.92
• <i>Supervision and training other providers</i>	0.38	0.33	0.59	0.75
• <i>General education curriculum/expectations</i>	0.10	0.14	0.07	0.17
School-Based Practice in General	0.62	0.69	0.87	0.92

^aRating Scale: 0/no coursework; 1/some coursework; 2/much coursework

Appendix J

**Amount of Pre-service Fieldwork Compared Across Cohorts
(reported in mean scores)^a**

Knowledge Area	Fieldwork: Amount (1970-79) (n=38-41)	Fieldwork: Amount (1980-89) (n=41-42)	Fieldwork: Amount (1990-99) (n=38-41)	Fieldwork: Amount (2000+) (n=24)
Pediatrics:				
•OT interventions	1.22	1.29	1.30	1.67
•Atypical growth and development of children	1.07	1.26	1.23	1.54
•Typical growth and development of children	0.78	0.83	0.91	1.17
•Assessment	1.10	1.17	1.14	1.71
School-Based Practice:				
•Educationally related OT interventions	0.28	0.67	0.79	1.17
•Education related OT assessments	0.40	0.67	0.79	1.17
•Accommodations	0.38	0.74	0.91	0.88
•Working as a member of an educational team	0.34	0.69	0.91	1.21
•Variations in OT depending on age of students	0.33	0.57	0.60	0.83
•Special education and related services	0.37	0.52	0.67	0.92
•IEPs, IIPs (IFSPs)	0.26	0.45	0.84	1.17
•Documentation and reporting	0.61	0.81	1.00	1.25
•Occupations of children in schools	0.31	0.50	0.67	0.92
•Frameworks for OT practice in schools	0.39	0.52	0.66	0.83
•Referrals, assessments and educational labeling of children	0.28	0.50	0.74	0.92
•Cultural competence	0.11	0.43	0.49	0.92
•Supervision and training other providers	0.29	0.59	0.53	1.08
•General education curriculum and expectations	0.00	0.29	0.23	0.38
School-Based Practice in General	0.48	0.67	1.00	0.67

^aRating Scale: 0/no coursework; 1/some coursework; 2/much coursework

Appendix K

**Open-ended Responses: Most Desirable Learning Methods
in Current Practice Setting**

Learning Method	Respondents (n=148)		Responses (n=383)	
	f	%	f	%
Conversations: general	89	60	97	25
OTs in school/ district	30	20	34	9
OTs in region/state	5	3	6	2
Variety personnel in school/ district	17	11	17	4
Workshops: general	71	48	74	19
With other personnel in school/ district	12	8	12	3
Relevant to SBP in school/ district	10	7	10	3
1-3 days in region/ state/ nationally	4	3	4	1
Study Groups: general	27	18	27	7
OTs/ related in school/ district	10	7	10	3
Variety personnel in school/ district	6	4	6	2
Observing OTs in SBP	12	8	12	3
Advanced/ Formal Learning	11	7	12	3
College Courses	6	4	6	2
Advanced degree	2	1	2	1
AOTA certification	1	1	1	<1
Mentoring: general	11	7	11	3
Being mentored by OT	4	3	4	1
Mentoring an OT	1	1	1	<1
Literature: general	9	6	10	3
Books/ articles	4	3	5	1
Home study	4	3	4	1
Technology:	9	6	11	3
Informal	4	3	4	1
Formal	3	2	3	1
Pod/ web casts	0	0	0	0

Appendix L

**Open-ended Responses: Most Desirable Learning Methods
Outside Current Practice Setting**

Learning Method	Respondents (n=143)		Responses (n=343)	
	f	%	f	%
Workshops: general	101	71	121	35
Relevant to SBP	18	13	18	5
Region/state/national	10	7	12	3
Advanced/ Formal Learning:	41	29	47	14
College Courses	16	11	16	5
AOTA Certification	2	1	2	1
Advanced Degree	8	6	8	2
Technology: general	21	15	24	7
Websites	1	1	1	<1
List serves	7	5	7	2
Online courses	9	6	12	3
Literature: general	21	15	30	9
Books/articles/journal	7	5	10	3
Home/ self-study	6	4	6	2
Conversations: general	19	13	19	6
OTs in region/state	7	5	7	2
Study Groups	3	2	3	1

Appendix M

**Comparison of Valued Past and Desired Future Learning Experiences
(reported in mean scores)**

	Valued Past ^a (n=156-158)		Desired Future ^b (n=154-156)
Learning from experience on the job	1.97	Workshops: Formal (1-3 days) in my region/state/ nationally	1.60
Learning from another OT	1.84	Professional conversations: With OTs in my school/district	1.59
Workshops sponsored by OT professional organizations	1.64	Workshops: Directly relevant to my SBP in my school/district	1.55
Learning from IEP/IHP members	1.59	Observing: Other OTs in their School-Based Practice (SBP)	1.29
Learning within groups or networks of OTs: locally	1.59	Study groups: Topical with other OTs/ related service providers in my school/district	1.20
Workshops sponsored by private agencies/providers	1.56	Professional conversations: Regularly scheduled with OTs in my region/state	1.19
Workshops sponsored by school district/education cooperative personnel	1.43	Professional literature: Learning by reading books, articles	1.17
Workshops sponsored by state agencies	1.36	Workshops: Being included with other personnel in my school/district	1.16
Professional literature	1.36	Professional conversations: Regularly scheduled with a variety of personnel in my school/district	1.13
Learning by supervising or mentoring students/ assistants	1.23	Learning with technology: Formal on-line learning	1.01
College or university coursework	1.20	Mentoring: Serving as a coach or mentor for an OT colleague	0.99
State or national conferences	1.15	Advanced formal learning: College courses	0.99
Learning within groups or networks of OTs: regionally/ nationally	1.14	Mentoring: Being coached or mentored by an OT colleague	0.93
E-learning: on-line conversations, pod/web casts	1.10	Learning with technology: Informal on-line learning	0.93
Home study course	1.01	Study groups: With a variety of personnel in my school/district	0.86
		Professional literature: Home study course with mailed materials	0.85
		Advanced formal learning: Pursuing an advanced degree	0.80
		Learning with technology: Pod or web casts	0.74
		Advanced learning: Pursuing advanced certification from AOTA	0.73

^aRating Scale: 0/not very valuable; 1/valuable; 2/very valuable

^b Rating Scale: 0/not very desirable; 1/desirable; 2/very desirable

Appendix N

**Barriers to Continuing Education by Demographic Location
(reported in mean scores)^a**

Barriers	Urban (n=37-38)	First Ring Suburban (n=31)	Second- Third Ring Suburban (n=38-39)	Small- Medium Town (n=27-28)	Rural (n=19)
Access to other OTs in school-based practice	0.68	0.77	0.67	0.61	1.37
Access to high quality and relevant content for OT practice in school settings	1.11	1.19	1.00	0.93	1.21
Cost of course or learning opportunity	1.39	1.52	1.46	1.54	1.47
Distance required to attend conferences/ seminars of interest	1.03	0.84	0.76	1.46	1.53
Insufficient E-learning opportunities and support	0.84	0.68	0.67	0.93	0.79
Paid time off not provided	0.76	1.00	0.82	0.79	0.74

^aRating Scale: 0/not a barrier; 1/somewhat a barrier; 2/significant barrier

Appendix O

**Open-ended Responses: Biggest Challenges to Continuing Growth
as a School-Based OT**

Challenge/Barrier	Respondents (n=147)		Responses (n=238)	
	f	%	f	%
Cost	68	47	72	30
Access to high quality and relevant content for SBP	27	18	27	11
Paid time off not provided	24	16	27	11
Access to other OTs in SBP	15	10	16	7
Distance	14	10	14	6
Insufficient e-learning	4	3	4	2
Other:				
Time	52	35	56	24
Caseloads Too High	11	7	13	6
No subs provided	9	6	9	4

Note. f = the number of respondents who wrote about the challenges to continuing growth; % = the percentage of respondents who wrote about the respective challenges

Appendix P

**Open-ended responses: Comments Related to the Survey,
Continuous Learning for OTs in SBP**

Cluster Areas	Specific Topics	Respondents (n=57)	Responses (n=67)
School-Based Role Clarification (n=20)	Educate educators, others about OTs Role in SBP	4	5
	OTs using a medical model	2	2
	Standards for the Role of SB OT	5	6
	Fieldwork	1	1
	Certification	1	1
	Licensing	1	1
	Expanded Role of OTs in SBP	1	1
Support and Suggestions for CPE (n=18)	Suggested Learning Topics	13	14
	PLCs	2	2
	CPE Critical	1	1
	Best time for CPE	1	1
	OT Supervision and CPE	1	1
	On-line Courses	1	1
Barriers to CPE (n=13)	College Courses	1	1
	Time	5	8
	Lack of Courses	5	5
	Cost	4	5
	Caseloads	3	4
Other (n=6)	Changing needs as laws change	1	1
	OT SBP List Serve Needed	1	1
	Interest in Results of Survey	1	1
	Not Reported	4	4