

January 2012

# Occupational Therapists' Intervention Approaches in Secondary Transition Services for Students with Disabilities

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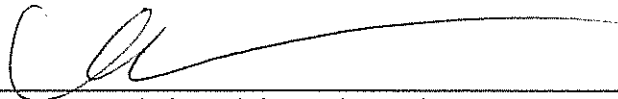
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Students with Disabilities

By

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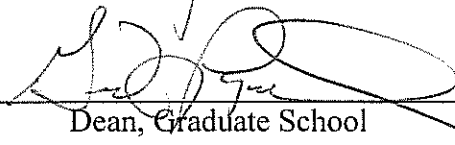
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Occupational Therapists' Intervention Approaches in Secondary Transition Services for  
Students with Disabilities

By

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Bachelor of Science in Occupational Science  
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2010

Submitted to the Faculty of the Graduate School of  
Eastern Kentucky University  
in partial fulfillment of the requirements  
for the degree of  
MASTER OF SCIENCE  
August, 2012

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## DEDICATION

This thesis is dedicated to my family for their continuous loving support and encouragement throughout my college career.

## ACKNOWLEDGMENTS

I would like to thank my incredible thesis committee and team members for their supportive guidance. Dr. MaryEllen Thompson, you have offered great compassion and support throughout my collegiate career. You have expanded my knowledge, appreciation, and passion for occupational therapy in countless ways. Dr. Doris Pierce, thank you for empowering my educational and professional knowledge with your great guidance and strength. Professor Amy Marshall, thank you for your continued interest and support to my thesis work. Karen Summers, thank you for allowing me to join you in the quest to establish occupational therapy's role in assisting youth in successful lifestyles beyond high school. Thank you to each of my family members for your unconditional support, time, and love that have allowed me to thrive to my potential as a scholarly student. I cannot express the great appreciation and admiration I have for my mother who has offered insurmountable love and support throughout my life. Thank you to my future husband and best friend for always listening and providing emotional support. Thank you to my brothers for offering a playful release during this process. I would also like to thank my father for continued advice and encouragement. I will continue to be blessed with opportunities for success in the future through the solid base of education that my amazing team and family have built.

## ABSTRACT

Students with disabilities have poor adult outcomes following high school compared to students without disabilities. Issues including poor self-determination, limited work and community experiences, and poor life skills contribute to poor adult outcomes.

Occupational therapists possess unique skills that guide intervention in these areas.

Despite explicit skills, occupational therapists are currently not predominate service providers in secondary transition services for students with disabilities. This study focused on transition-related intervention approaches used by occupational therapists in the Arizona Peoria Unified School District. Data was collected through qualitative research of a larger study designed to establish the role for occupational therapy in effective transition programming. Application of grounded theory methodology revealed themes describing how occupational therapists utilize transition-related approaches. Themes included collaboration with team members, occupational therapists' transition repertoire, specific interventions, and therapists' perspectives of students. Application of findings will enhance multi-disciplinary understanding of occupational therapy's role in secondary transition-related intervention approaches.



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## CHAPTER 1

### **Introduction**

Finishing high school marks a tremendous turning point for all individuals in the United States society. The process involved in finishing high school and entering adulthood is referred to as *transition*. Transition, when referring to high school completion, is a change from behaving as a student to behaving as an adult in the community (Defur, Todd-Allen, & Getzel, 2001). As youth become adults, they often go to college or obtain full-time employment, live on their own, become involved in the community, and develop personal and social relationships (Wehman, 2006). Many areas of life are changed during the transition process. Students with disabilities face challenges during the transition process. Federal legislation provides supports in the school system for students with disabilities. Research evidence has shown that enhanced work skills, life skills, use of assistive technology, and environmental modifications improve postsecondary outcomes and quality of life for this population (Wehman). Occupational therapists possess unique skills and intervention approaches to improve these areas for students with disabilities while in high school. However, there is limited theory and research to support the role of the occupational therapist in intervention approaches associated with transition services for secondary students with disabilities. Through involvement in federally mandated transition planning, occupational therapists can assist in improving adult outcomes and overall quality of life for students with disabilities.

## **Background and Need**

### **Federal Legislation**

Throughout the education continuum, students with disabilities receive supports to encourage academic and functional success. Federally mandated laws protect students with disabilities' rights to education. Laws also require related services, such as occupational therapy, physical therapy, and psychological counseling, be provided to support the students' needs.

**Individuals with Disabilities Education Act.** Special education and related services in the public school system are mandated under the Individuals with Disabilities Education Act (IDEA) of 1990 (PL 101-476). The act was updated in 1997 (PL 105-17) and 2004 (PL108-446). The act ensures protection of rights and access to education for students with disabilities and their guardians. Students' access to special education and related services is uniquely developed and implemented through an individualized education program (IEP). The IEP reflects, "the child's educational needs, levels of academic and functional performance, and annual goals as well as special education and related services and supplementary aids and services to be provided to the child" (Jackson, 2007, p. 4). Through the IEP process, student strengths and areas of need are addressed so that individualized services and special education can be provided.

The IDEA mandates secondary transition services provided to students with disabilities beginning by the age of sixteen-years-old (IDEA, 2004). Transition services are documented in the IEP and are required to contain a coordinated set of activities to match each students' unique strengths, needs, and interests for successful transition into

adulthood (IDEA). A coordinated set of activities is designed to promote movement from school to postsecondary activities using targeted outcomes. Postsecondary activities are defined to include postsecondary education, vocational training, integrated employment (including supported employment), continuing and adult education, adult services, and independent living or community participation (IDEA). According to IDEA, all students with disabilities should receive instruction, related services, community experience, and opportunities for development of employment and adult living skills while in high school. Forty-seven percent of states in the U.S. have been revealed in not addressing transition planning in IEP goal setting (OSEP, 2002).

**The Rehabilitation Act and Americans With Disabilities Act.** In addition to IDEA regulations, students' rights to educational access are protected by Section 504 of the Rehabilitation Act of 1973 and Title II of the Americans With Disabilities Act of 1990 (ADA), (Jackson, 2007). These acts mandate that reasonable accommodations be made by federally funded programs so that education is accessible and usable for individuals with disabilities. Students, who are not eligible to receive services under the IDEA, may receive supports for accommodation through a 504 plan or under the ADA (Jackson).

The ADA was enacted to end discrimination towards people with disabilities. "Its regulations provide for accessibility; nondiscrimination; and greater access to workplaces, community facilities, and public services, public transportation, and telecommunications" (Orentlicher, 2007, p. 189). ADA regulations are followed in secondary educational systems, implemented in employment settings, and followed in postsecondary education.

The Rehabilitation Act Amendments of 1998, which is part of the Workforce Investment Act of 1998, oversees the Vocational Rehabilitation Program (Orentlicher). The Vocation Rehabilitation Program is designed to provide employment and independent living opportunities for individuals with disabilities. The program is utilized by high school students with disabilities to gain employment experiences and prepare for transition into adult roles. Individuals with disabilities may be eligible to continue to receive services through the vocation rehabilitation program following high school completion.

**Workforce Investment Act.** The Workforce Investment Act is also utilized by individuals with disabilities to have skills needed to obtain employment. The act serves five proposes which included employment services in one location, provide information and training resources to job seekers, ensure universal access to main resources, aid the role of local workforce agencies, and develop youth programs (Orentlicher, 2007). The Workforce Investment Act gives individuals with disabilities various opportunities for employment training and skill development.

### **Occupational Therapy**

Occupational therapists are part of the professional team that works with students with disabilities in the education system (IDEA, 2004). Occupational therapists are client-centered and focus on clients' needs, strengths, interests, and preferences (AOTA, 2008). Therapists currently work in the school system to promote educational access and success. The majority of therapists work in elementary schools (Levine, Marder & Wagner, 2004). A focus of occupational therapy service provision has been on fine motor skills, environmental modifications, and assistive technology. Occupational

therapists have become widely recognized in assessing and implementing use of assistive technology and environmental modifications for students with disabilities in the school system (Waston, Ito, Smith, & Anderson, 2010). Postsecondary outcomes are also emphasized in secondary education through the IEP, but have not been a focus for occupational therapy services (Kardos & White, 2005). Occupational therapy services focused on transition planning and services allow opportunities for vocational training and work skills. Employment and enhanced quality of life are the long term goals for transition services. Occupational therapy outcomes provide opportunities for skill attainment in these areas, along with life skills and environmental adaption.

Occupational therapy practice is guided by the *Occupational Therapy Framework: Domain and Practice, 2<sup>nd</sup> edition* (AOTA, 2008). The framework ensures that occupational therapists work to promote engagement in human occupations. Occupations are broken into areas of occupations. Areas of occupation include “activities of daily living, instrumental activities of daily living, rest and sleep, education, work, play, leisure, and social participation” (p. 630). Transition outcomes as established by IDEA 2004 use comparable language as seen in Table 1. The strong relationship between the occupational therapy practice framework and transition outcomes creates an obvious role for occupational therapy involvement in transition planning and preparation.



Table 1

*Comparison of Language Used in IDEA 2004 and the Occupational Therapy Practice Framework*

<b>Transition Outcomes in IDEA 2004</b>	<b>Areas of Occupation in the Framework</b>
Employment	Work
Higher education	Education
Living arrangements Income and medical support Transportation	Activities of daily living Basic Instrumental
Long-term support and care	_____
Leisure activities	Leisure Play Social participation

*Source(s):* Orentlicher, M. (2007). Transition from school to adult life. In L. Jackson (Ed.), *Occupational therapy services for children and youth under IDEA*, 3<sup>rd</sup> ed., (pp. 187-211). Bethesda, MD: American Occupational Therapy Association Press. (p. 194).

**Effective Approaches to Improve Transition Outcomes**

Despite legal mandates requiring coordinated sets of activities to establish post-school skills, students with disabilities have poor adult outcomes. The population presents a high rate of unemployment, underemployment, and poverty (National Organization of Disability, 2004). Transition services and coordinated sets of activities have been integrated into students’ IEP’s within the past seven years, since the update of the IDEA in 2004. But, post-secondary planning remains a weak area in the public school system. Research evidence indicates four target areas that can improve post-secondary outcomes (Wehman, 2006). Self determination, work skills, life skills, and assistive technology have proved to be influential factors in post-secondary success.

**Self-determination.** Services to prepare students for transition into adulthood ideally reflect the students' goals and individual desires. Engaging the student to participate in transition planning while in high school allows them power in determining their future life goals. Self-determination has been defined by individuals "acting as the primary causal agent in one's life and making choices and decisions regarding one's quality of life free from undue external influence or interference (Wehmeyer, 1996, p. 24). IDEA 2004 requires students to participate in their transition planning and postsecondary outcomes, by which encourages students' self-determination (Jackson, 2007). Research has revealed that students' knowledge and participation in developing their own transition plan leads to increased obtainment of post-secondary goals and improved quality of life (Lachapelle et al., 2005; Martin et al., 2006; Wehmeyer, Plamer, Soukup, Garner, & Lawrence, 2007; Wehmeyer, 2002). Self-determination allows the student to make and voice their own decisions on factors, such as living arrangements, employment, and everyday tasks, such as what to eat. Self-determination is key to enhancing quality of life for students with disabilities (Carter, Lane, Pierson, & Stang, 2008).

**Work skills.** Employment and the role of a worker are critical for enhanced quality of life (Westmorland, Williams, Strong, & Arnold, 2002). Being employed "influences where people live, in what activities they engage in, and what relationships they develop" (Orentlicher, 2007, p. 193). If individuals are unable to obtain paid employment, they often remain financially dependent on their parents (Wehman, 2006). Work skills allow individuals with and without disabilities to gain independence, as well as adjust into adult roles. Wehman discussed four reasons that post-secondary

employment is so important. Paid employment allows for financial independence, increased community mobility options, daily engagement in valued productive occupations supports self-esteem, and social participation at work is beneficial for all individuals.

Participation in employment opportunities in high school has been found to be crucial in establishment of post-secondary employment for individuals with disabilities (Carter, Trainor et al., 2010; White & Weiner, 2004). Development of work skills associated to specific tasks, along with related expected skills, such as communication skills and positive attitude allow students to become marketable to potential employers (Elkinson & Elkinson, 2001; Wehman, 2006). In addition to skill development, utilization of assistive technology devices and universal design improve access and productivity for individuals with disabilities (Wehmeyer, Palmer, Smith et al., 2006; Mull & Sitlington, 2003). Through vocational opportunities in high school, students can gain experience in the work force, improve skills, and implement useful technology to enhance adult outcomes.

Occupational therapy is designed to rehabilitate, teach skills, and adapt the environment to promote access to various activities essential to job performance. Therapists possess the abilities to identify strengths in students' skills to best pair them with meaningful job opportunities through task analysis. As the student engages in job-related activities, the therapist can also evaluate student performance and the environment in order to make adjustments to enhance performance. For example, if a student enjoys sewing and has obsessive-compulsive disorder, an occupational therapist can recognize a match between these skills and job requirements of an embroiderer. Once the student is

provided the opportunity to practice embroidering, the therapist can make adaptations to the equipment or other environmental aspects to enhance performance, such as developing an organized work desk so that the threads are in order by color to decrease anxiety caused by the student's obsessive-compulsive disorder when items are not organized.

**Life skills.** Gaining competence in life skills is expected through maturity and increased independence. Life skills have been described to include home and family maintenance, employment or education, leisure pursuits, community involvement, emotional and physical health, and personal responsibility and relationships (Wehman & Thoma, 2006). Establishment of such skills begins in high school through social participation, work experiences, self care, and increased autonomy in one's activity choices. Evidence supports teaching and attainment of life skills as predictive to postsecondary independent living and employment (Armstrong, Dedrick & Greenbaum, 2003; Blackorby, Hancock, & Siegel, 1994; Halpern, Yovanoff, Doren, & Benz, 1995; White & Weiner, 2004). Life skills are necessary for independent adult life following high school.

Occupational therapists are trained to provide interventions focused on occupations associated with life skills and are referred to as basic and instrumental activities of daily living (AOTA, 2008). Basic skills include bathing, dressing, and bathroom use. Instrumental skills include budgeting, safety, meal preparation, home care, and community mobility. Occupational therapy has been proven effective in improving life skills (Trombly & Ma, 2002). By implementing occupational therapy intervention focused on life skills while in high school, students gain skills and abilities

to care for themselves after high school. Transition preparation in the area of life skills offers greater independence, improved adult outcomes, and enhanced quality of life for students with disabilities.

**Assistive technology and environmental modification.** Numerous devices and modifications can be provided to allow access and communication in various settings and activities for individuals with disabilities. Utilization of such devices or modifications has been shown to improve postsecondary outcomes (Poel, 2007). Students who are introduced to assistive technology and modifications in high school become familiar with the devices and gain greater access to their environment. This, in turn, allows for improved skill acquisition, self-determination, and social participation (Webb, Patterson, Syverud, & Seabrooks-Blackmore, 2008).

Occupational therapists utilize various assistive technology devices and environmental modifications in the school system and other areas of practice. Assistive technology allows students to better “communicate, analyze, write, read, hear, see, learn, and demonstrate their knowledge” (Schoonover, 2007, p. 131) in the school system and are continued to be used throughout adulthood. Watson, Ito, Smith, and Anderson (2010) demonstrated increased IEP goal attainment associated with the use of assistive technology. Environmental modifications change facets of the environment, such as seating, lighting, flooring, temperature, that enhance performance of individuals with disabilities. Increased efficiency and use of assistive technology and environmental modifications provides opportunities for greater access in the community, employment options, and social participation. Graff and colleagues (2006) determined an improved

quality of life for individuals with disabilities following occupational therapy involvement for environmental modifications.

**Occupational therapy focused on transition in schools.** Occupational therapy has proven efficient in helping individuals with a disability or injury transition into work, home and the community (AOTA, 2011). The American Occupational Therapy Association (AOTA) has defined the transition process as, “involving actions coordinated to prepare for or facilitate change, such as from one functional level to another, from one life stage to another, from one program to another, or from one environment to another” (p. 866). However, research evidence has shown that many occupational therapists working in the school system do not concentrate on transition services or postsecondary outcomes. A study by Kardos and White (2005) found that the majority of therapists working in the school system were knowledgeable of IDEA transition services, but were unaware of how the act mandates transition planning and goals addressing postsecondary outcomes to be included in the IEP. The study showed that few occupational therapists worked on transition services with high school students despite expert training in areas related to postsecondary employment and enhanced quality of life.

### **Problem Statement**

Students with disabilities face additional challenges as they transition out of high school and into adulthood. Evidence shows that students with disabilities are much more likely to be underemployed, unemployed, and live in poverty (National Organization on Disability, 2004). The IDEA of 2004 mandates that services be provided that focus on employment and life skills in order to ease the transition. Occupational therapists exhibit knowledge and skills to best meet the needs of students in areas of employment skills, life

skills, and environmental modification to promote independence. However, occupational therapy provides limited transition-related planning and services within school systems.

### **Statement of Purpose**

The purpose of this research was to examine how occupational therapists in Arizona's Peoria Unified School District utilized intervention strategies to enhance transition services for secondary students with disabilities. The research was part of a larger study designed to develop a theory of action for improvement of occupational therapy transition services to secondary students with disabilities. Application of this research will enable occupational therapists to more effectively practice in secondary transition services in the high school system.

### **Research Question**

How do occupational therapists use interventions while developing occupational therapy transition services to secondary students with disabilities?

### **Definitions of Terms**

*Assistive Technology* – “any item, piece of equipment, or product system, whether acquired commercially off the shelf, modified, or customized, that is used to increase, maintain, or improve functional capabilities of individuals with disabilities” (IDEA, 2004).

*Coordinated set of activities* --“As used in this part, transition services means a coordinated set of activities for a student with a disability that 1) Is designed within an outcome-oriented process, that promotes movement from school to postschool activities, including postsecondary education, vocational training, integrated employment (including supported employment [SE]), continuing and adult education, adult services,

independent living or community participation; 2) Is based on the individual student's needs, taking into account the student's preferences and interests; 3) Includes instruction, related services, community experiences, the development of employment and other postschool adult living objectives, and acquisition of daily living skills and functional vocational evaluation" (IDEA Section 300.29, 2004).

*Environmental modification*- changes or adaptation's to physical aspects of the environment, such as seating, flooring, lighting, noise, positioning, etc., to promote occupational performance (Law, 1991).

*Individuals Education Program (IEP)* – Federally mandated program to facilitate individualized, student-centered, collaborative special education and related services for students with disabilities from kindergarten to high school completion (age 21) to promote educational access and success. Students with disabilities have individualized IEPs that are annually updated. The IEP includes statements regarding the student's present performance, annual goals, alternative assessments, special education and related services, and appropriate accommodations (US Department of Education, 2006).

*Intervention* – “The process and skilled actions taken by occupational therapy practitioners in collaboration with the client to facilitate engagement in occupation related to health and participation. The intervention process includes the plan, implementation, and review” (AOTA, 2010).

*Occupation*- “a subjective event in an individual's perceived temporal, spatial, and sociocultural conditions that is unique to that one-time occurrence. An occupation has a shape, a pace, a beginning, and an ending, a shared or solitary aspect, a cultural meaning to the person, and an infinite number of other perceived contextual qualities. A person



interprets his or her occupations before, during, and after they happen. Though an occupation can be observed, interpretation of the meaning or emotional content of an occupation by anyone more than the person experiencing it is necessarily inexact” (Pierce, 2001, p. 139).

*Transition services*--Transition refers to activities meant to prepare students with disabilities for adult life. This can include developing postsecondary education and career goals, getting work experience while still in school, setting up linkages with adult service providers such as the vocational rehabilitation agency--whatever is appropriate for the student, given his or her interests, preferences, skills, and needs (US Department of Education, 2000).

*Quality of Life*- A client’s dynamic appraisal of life satisfactions (perceptions of progress toward identified goals), self-concept (the composite of beliefs and feels about themselves), health and functioning (including health status, self-care capabilities), and socioeconomic factors (e.g., vocation, education, income), (AOTA, 2008).

*Related Services*- developmental, corrective, and other supportive services as are required to assist a child with a disability to benefit from special education, and includes...*and includes* speech-language pathology and audiology services, interpreting services, psychological services, physical and occupational therapy, recreation, including therapeutic recreation, early identification and assessment of disabilities in children, counseling services, including rehabilitation counseling, orientation and mobility services, and medical services for diagnostic or evaluation purposes. Related services also include school health services and school nurse services, social work services in schools, and parent counseling and training (NDCCD, 2010).

## **Assumptions**

1. Students with disabilities have poor adult outcomes following completion of high school.
2. Improvement in work skills, life skills, along with use of assistive technology and environmental modifications will enhance individuals with disabilities' postsecondary independence and quality of life.
3. Occupational therapy has been validated to be effective in improving work skills, life skills, integrating assistive technology, and developing environmental modifications to improve independence and quality of life for individuals with varying disabilities or illnesses.
4. Occupational therapists offer unique analysis in job skills, task requirements, and environmental access.
5. Occupational therapists are not currently reaching their potential in assisting students with disabilities in transition preparation while working at the high school level.

## CHAPTER 2

### Literature Review

Transition out of high school is a significant change in United States society. Living with disabilities presents barriers to successful independent lifestyles following high school. It is known that students with disabilities have poor adult outcomes (Davies & Beamish, 2009). This population has been less likely to hold a job and live independently following high school completion (Braun, Allsopp, & Lollar, 2006; Office of Special Education and Rehabilitative Services, 2002). This fact sparked development of federal legislation mandating supportive services through secondary transition planning beginning at the age of 16 (IDEA, 2004). The Individuals with Disabilities Education Act of 2004 (IDEA) dictates specific services for students with disabilities are entitled to while in the public education system. The federal law indicates transition planning and services must begin by age of sixteen. Services can be provided earlier based on state laws, for example, Kentucky law states transition planning must begin at the age of fourteen (707 KAR 1:320 §6[1]). More specifically, the act requires development and maintenance of an Individual Education Plan (IEP) for each student with disabilities. Students should be a part of the IEP meetings to enhance development of goals, planning, self advocacy skills, and to encompass student interest and strengths.

The IEP must include post-secondary goals for transition out of high school. Post-secondary goals are created and updated annually. The goals address instruction, community experience, development of employment and post-school objectives, acquisition of daily living skills, and functional vocational evaluation (IDEA, 2004). Disciplines addressing these areas are numerous, and specific professional

responsibilities are subjective. The following literature review will address current evidence on transition planning and services from various disciplines including vocational rehab, child and family studies, disability rehabilitation, and occupational therapy. Specific areas of practice within occupational therapy will be applied to transition planning and intervention for students with disabilities while in high school.

### **Transition Services**

Numerous disciplines have recognized the need for transition planning services for students with disabilities while in high school. Published research indicates areas of strengths and weaknesses within transition services and programs designed to prepare students with disabilities for adult life. Through surveys and specific program involvement, researchers have begun to recognize strengths and barriers to transition planning and services, as well as post-secondary outcomes for individuals with disabilities.

### **Family Perspectives on Transition**

Davies and Beamish (2009) completed a self-report survey of parents and individuals with disabilities regarding demographics, preparation to post-secondary life, and outcomes. Results showed that high parental involvement was needed during transition preparation in high school, and students had limited work experiences. There were also limited community-based activities for this population. Overall, post-secondary life for students with disabilities had poor adult outcomes which can lead to a poor quality of life following high school (Davies & Beamish).

Magill-Evans, Wiart, Darrah, and Kratochvil (2005) examined perceptions of six young adults with cerebral palsy and their parents' perceptions of secondary transition

experiences through qualitative methods. Using semi-structured interview questions, parents and young adults were interviewed separately to discuss their experiences in transition into adulthood. Three themes were evident. All participants perceived the young adult was ready for increased autonomy in their lives. Parents varied in allowing or withholding opportunities for their children to make independent decisions and learn from life experiences, such as going to the bar or being late for a job. In addition, parents identified a shift in their parental roles and responsibilities. Parents of children with physical disabilities struggled more in letting go of their parental roles. The authors concluded the need for collaborative services to address changed parent-child relationships as young adults with disabilities transition into adulthood.

Jivanjee, Kruzich, and Gordon (2009) completed a qualitative study using participatory research. The purpose of the research was to identify perspectives of family members and their loved ones with a disability regarding transition services and community integration approaches following high school completion. Some supports and necessities to community integration following high school that were identified by the data included the importance of opportunities for goal attainment, sense of achievement, developmental benefits of peer relationships, benefits of strength-oriented programs, and the need for supportive mentoring relationships. Barriers to successful transition and community integration included lack of preparedness for adult life, difficulty forming social relationships due to anxiety and stress, stigmatizing attitudes of others, and lack of community resources.

Parents and family members have recognized barriers to transition planning and successful post-secondary outcomes related to adult life. The barriers to successful

transition and post-secondary outcomes hinder quality of life and full occupational engagement in all areas by individuals with disabilities (Davies & Beamish, 2009). Some parents have realized their need to be active advocates for their students while transition planning (Davies & Beamish), while others have noted positive benefits of programs focusing on student strengths and peer relationships (Jivanjee et al., 2009). Parents identified changes in their own parental roles and responsibilities as their child transitions into adulthood (Magill-Evans et al., 2005). Changes and barriers presented in these studies must be considered during transition planning and service enhancement in order to best serve students' needs. Successful supports that parents have identified are informative to transition planning team members on the IEP so that the team recognizes areas of service to continue.

### **Post-Secondary Social Roles**

Social activity is important for belongingness and role development. Braun, Allsopp, and Lollar (2006) completed a self-report survey to identify social roles of adults with disabilities following high school. Results indicate limited social roles, such as paid employment, post-secondary education, or care giving following high school completion. The limited post-secondary social roles were attributed to limited social activity while in high school. The authors suggested that intervention be used while in high school to address social participation and the post-secondary outcome of social roles.

### **Employment Programs: Youth in Transition Demonstration**

Luecking and Wittenburg (2009) described the use and effectiveness of the Youth in Transition Demonstration to enhance transition and post-secondary outcomes. The

Youth in Transition Demonstration utilizes a model based on individualized work-based experiences, youth empowerment, family supports, system linkages, social and health services, work incentives, and benefits counseling. Two individuals with disabilities participated in the programs designed from the Youth in Transition Demonstration to enhance their employment opportunities. One individual from Mississippi began the Model of Youth Transition Innovation at the age of 16, and the other individual enrolled in the Bridges to Youth Self Sufficiency in California. Both programs encompassed Youth in Transition Demonstration foundations as mentioned previously. The participants were successful in finding and maintaining employment following completion of high school. The model utilized a client-centered approach to best meet the needs of these individuals, so that they were empowered with the ability to fully function in the adult work force.

This research illustrates needs related to transition planning and services that should be addressed while in high school. Areas identified include social skills, adult living skills, employment experiences, community-based activities, activity adaptation, and family support. With appropriate intervention and preparation, individuals with disabilities were able to successfully find and maintain paid employment. This one facet of transition planning allows for empowerment, self determination, social experiences, and a great quality of life. Luecking and Wittenburg (2009) illustrated a model which enhanced the participants' employment potential. The occupational therapists' broad scope of practice will allow for intervention within each of the needed areas. Occupational therapy will utilize a holistic approach during planning and intervention for adult life beyond high school for students with disabilities.

## **Involvement of Occupational Therapy in Transition Programs**

Occupational therapists have skills and abilities to aid individuals in areas of independent living, employment, and community involvement. However, limited research is available within the realm of occupational therapy to pinpoint effective transition-based interventions. Three studies are described below regarding assessment analysis, community-based models, and ecology models used to create transition programs and services. The studies demonstrate effective use of occupational therapy within transition planning and intervention for individuals with disabilities as they transition into adult life.

### **Evaluation**

Evaluation of student abilities and needs is the key to determining appropriate intervention and needed services. Kardos and White (2006) identified the need for definitive evaluation criteria to better aid occupational therapists while preparing students to transition into adulthood. The authors stated that occupational therapists can offer skills in the area of transition planning for students with disabilities from school to post-school activities, such as living skills, work and leisure, and community participation. The study proposed an evaluation plan that could be used to aid occupational therapists in evaluating the strengths and needs of students in the transition process to post-secondary life. The evaluation plan consists of three assessments. The study examined their usefulness in transition goal setting.

The study (Kardos & White, 2006) utilized a case study design. The participant was a student who was recommended by the school district for the study. The student



attended a private special education school outside of the school district. The school focused on intensive and individualized academic instruction for students with cognitive impairments. The participant was 16 years of age and had an intellectual disability. They were preparing for transition from the current school to a general public high school.

Three established assessments were administered in Kardos and White's study (2006). Parents completed the Enderle-Severson Transition Rating Scale-Revised (ESTR-R) which covered information regarding independent living, community participation, post-secondary employment, post-secondary educational needs, and predictive behaviors. Teachers completed the Transition Behavior Scale (2<sup>nd</sup> ed.) (TBS-2) which assessed school-related work habits. School-related work habits are used to predict behavior in society. Occupational therapists completed the Assessment of Motor and Process Skills (AMPS) in the home on two meal preparation tasks. The AMPS assessed personal and instrumental activities of daily living, as well as process and motor skills.

Results from the assessments were analyzed and compared to standardized score rankings associated with the assessments. Summaries were produced based on these scores. The summary of the ESTR-R indicated that tasks completed independently by the student were strengths, tasks requiring assistance needed continued teaching, and tasks that were not performed by the student needed to be introduced. The TBS-2 showed tasks completed consistently by students were strengths, whereas inconsistent completion of tasks indicated a need for skill development. Lastly, the AMPS focused on process skill development. When results were applied to a case example, the student's

IEP goals were changed to reflect goals in independent living, employment, community participation, and social behavior which are consistent with transition-related goals and occupational therapy areas of practice (AOTA, 2008).

Each of the assessments offered valued data but also had significant limitations (Kardos & White, 2006). The AMPS can only be administered by trained occupational therapists and may not be feasible for overall transition planning in the absence of an occupational therapist. The ESTR-R and TBS-2 have subjective language that may become a barrier for diverse students. Items on the questionnaires are also subjective and scores may vary by person. Lastly, the TBS-2 has normative data that only goes up the age of 18 years. And so, there is an adequate need for transition assessments to be used during planning with this population to best meet the needs of individual students.

### **Programs**

Establishment of programs to enhance transition-related skills and postsecondary outcomes has been explored through research. Programs which enhanced the overall community's understanding of individuals with disabilities and promoted self-determination through utilization of an ecological frame of reference have been described in the literature. Both proved to be effective in enhance individuals with disabilities' adult life.

**Community capacity-building forum.** Wynn, Stewart, Law, Burke-Gaffney, and Moning (2006) identified that occupational therapists have skills to aid in this transition, but noted there is little research on the topic. Wynn, Stewart, Law, and Burke-Gaffney completed a pilot study using a community capacity-building (CCB) forum aimed to aid individuals with disabilities' success in the community. The study had two

objectives. The first was to support adolescents in transition into adulthood by creating a group forum with individuals from around the community to discuss assets in the community that are available to individuals with disabilities. The second objective was to evaluate the process and outcomes of the CCB forum in meeting the needs of the participants, and analysis of how the program might contribute to future transition planning.

The authors reviewed theoretical models which occupational therapists use in community involvement work (Wynn et al., 2006). Models include a client-centered model, an independent living model, a community-based rehabilitation model, and a community capacity-building model. The models guided the foundations of the study which utilized the community capacity-building model.

Using a qualitative, phenomenological design, participants were selected. Purposeful selection with maximum variation was used to ensure a broad range of participant experiences, positions, and demographics. Twenty-five people attended the forum, and seventeen signed consent forms to participate. Seven parents, two youth with disabilities, and eight community employers (police officer, librarian, school principal, grocer, manager of community agency for adults with disabilities, university professor, an occupational therapist, and a municipal employee) took part in the study. Based on the CCB, a community inventory or asset map was created prior to the forum to illustrate current community capacities and assets. The inventory was created based on a one-page form filled out by participants four months prior to the forum. Interviews with each participant were conducted 13 months after the forum to gather additional data. Naturalistic observations in the community and field notes were also gathered.

Specific data collection included the community inventories, as well as semi-structured interviews before and 13 months following the forum which were recorded and transcribed verbatim, and naturalistic observations in the community and field notes which were transcribed (Wynn et al., 2006). Analysis of inventories, interviews, and observations was completed as an ongoing process. Also, an iterative process was used to review data over time and to modify interview questions based on new findings. All transcripts were reviewed by researchers, codes were developed, and all transcripts were coded.

Results indicated that the CCB was successful in its primary objective of fostering connections for these youth in the community (Wynn et al., 2006). Four central themes prevailed. Creating connections, where by people felt a sense of togetherness and a personal touch. The project raised awareness about capacities and gifts in which community employers became aware of numerous assets individuals with disabilities have to offer. Several lessons were learned, such as the importance of having a strong facilitator and how participants liked the youth to speak about their experiences. Lastly, the community participants had a new understanding and desire to include individuals with disabilities.

The overall research process created improved perceptions by community members of the assets youth with disabilities have to offer (Wynn et al., 2006). Parents and youth gained sense of satisfaction and improved quality of life after the forum due to increased community involvement. The exploratory nature of the study allowed for significant, in depth results.

**Youth En Route program.** In addition to research regarding programs for community integration, occupational therapy researchers have investigated programs to address self determination, personal control, and community participation. Evans, McDougall, and Baldwin (2006) developed the ‘Youth En Route’ program. It is a transition program for individuals aged 16-19-years-old with disabilities. It uses a service delivery model, is ecologically driven, emphasizes family and client centeredness, and uses strength-based coaching. The program encourages self discovery, skill development, and community experience. The goal is community participation through developed self-determination and skill acquisition.

The purpose was to evaluate the effectiveness of the Youth En Route program, with objectives to measure outcomes for youth on self-determination, sense of personal control over life choices and future directions, and community participation (Evans et al., 2006). Also, the study aimed to learn clients’ satisfaction with the program. The research used a quasi-experimental design with one group pretest/posttest program evaluation.

All participants of the YER program were considered except those with acute health problems. After exclusion, fifty-one people were included (Evans et al., 2006). Seventeen dropped out, leaving thirty-four individuals in the final sample, with seventeen males and seventeen females, and an average age at pretest of 22 years and 3 months. Disorders included cerebral palsy, spina bifida, and others. Problem areas included mobility, learning/cognition, vision, communication, and others.

Pretests were given one to two weeks prior to beginning the program in a staggered time line and involved an interview, The Arc’s Self-Determination Scale

(ARC), the Nowicki-Strickland Locus of Control Scale (NSLC), and the Community Integration Questionnaire (CIQ) (Evans et al., 2006). Average time of completion for pretests was 70 minutes. Participants were also asked to complete the Activity Profile during the time before starting the program. The average length of the program was ten months. The post-test was administered twelve months following completion of the program using the same methods with addition of the Client Satisfaction Questionnaire.

Statistical data analysis was used with an effect size set at 0.45. There were statistically significant improvements for self-determination on the ARC (Evans et al., 2006). Statistically significant improvements were made for sense of personal control according to pre/post-test scores of the NSLC. Community participation significantly increased by over three hours according to pre and post-test results of the CIQ. Clients indicated that they were highly satisfied with the program. Results of the three outcomes were significantly improved. The program used an ecological approach to improve self-determination skills which may positively impact the individual's life. These types of programs should be continued and educators and the transition team should focus on development of self determination. The study measured multiple outcomes, comparison testing, and offered a foundation of knowledge regarding transition that has not yet been fully researched.

### **Secondary Transition Services in the School System**

Previously mentioned research has illustrated the interest in transition services in various disciplines and transition services aided by occupational therapists. Despite interest by researchers, literature suggests that adequate transition planning and services are not offered in most school settings (Jivanjee et al., 2009). The following evidence

begins to investigate the occupational therapists role in transition services while practicing within the school systems.

### **Other Professionals' Perspectives of Occupational Therapists' Role in Transition**

Spencer, Emery, and Schneck (2003) completed a study which examined perceptions of special education directors on the role of occupational therapy in high school transition programs for students with disabilities. Barriers to occupational therapy services in transition were also assessed, as well as new occupational therapy services for students with disabilities. A questionnaire was used to assess current roles of occupational therapists in transition planning and barriers associated with delivery of occupational therapy services in the schools. Participants, including 181 high school special education directors which represented 176 school districts in Kentucky, were mailed surveys and assured confidentiality. 104 special education directors completed the survey and mailed it back. Demographics reveal that the majority had 16 years or more in teaching, ten years or more as special education director, and 72% work in rural areas.

The questionnaire used was developed from a literature review (Spencer et al., 2003). The survey provided structured questions to assess special education directors' perceptions of the role of occupational therapy in transition planning. Content and face validity were established through committee review and any problems were addressed through a pilot study. The survey had 52 closed-ended questions and one open-ended question. The topics included demographics, a checklist of providers who provide work, community, independent living and other services, a checklist of barriers to conducting occupational therapy in transition planning, and which types of disabilities could benefit

from occupational therapy services. Surveys were mailed to special education directors with a letter describing the purpose of the study and a return envelope. It was requested that the surveys be completed and returned within two weeks. Survey responses were statistically analyzed using Excel 7.0 and SPSS Version 10.0. Results were indicated in total number and percentages.

The study had several significant results (Spencer et al., 2003). The majority of occupational therapy services in these schools were provided by contracted occupational therapists from agencies or companies. The study showed that 63% of special education directors believed that occupational therapists were providing enough transition services. The survey also indicated utilization of service providers. It was revealed that special education teachers provide most of the work and job placement activities, and occupational therapists only provide minimal (less than 5%) job placement and job exploration services. It was also shown that special education teachers and job coaches provide most community-based transition services, and occupational therapists only provided 5-8% of these services. These services include skill building in transportation, shopping, residential exploration, and community exploration. Special education teachers and regular teachers provide most of the independent living skills, including domestic living skills, and problem solving. It was indicated that the occupational therapists provide more services for assistive technology, task and environment modification, and IEP planning.

Barriers included lack of interagency planning, lack of parent participation, lack of qualified personnel, inconsistent transition services, and transportation. The role of occupational therapy was not fully understood, so therapy was a low priority and



therapists were given miscellaneous tasks. It was recommended that broader occupational therapy services should be provided to students with cognitive disabilities, physical disabilities, communication and behavioral disabilities, and sensory integration.

Occupational therapists perceived themselves as providing enough transition services, but special education teachers, regular teachers, and job coaches provided the most transition services (Spencer et al., 2003). There is a need to increase the awareness and scope of practice that therapists offer for transition services. Student access to qualified occupational therapy providers was a barrier, yet only 25% of schools employ their own occupational therapists. Special education directors may not report needs accurately as it would indicate action on their part according to their job requirements, and reliability testing was not performed. The study established dialog with special education directors who can influence occupational therapy services and provide evidence that occupational therapists should provide these target services.

### **Occupational Therapists' Perceptions of Their Role in Transition**

Minimal research exists describing occupational therapists' perceived roles in transition. Kardos and White (2005) conducted a pilot study using survey research to better understand the role of school-based occupational therapists in secondary transition services. Using random sampling of occupational therapists across the United States, the researchers collected 80 surveys regarding occupational therapists' role in transition. The survey questions were designed to identify if the occupational therapists understood IDEA secondary transition legislation, if they engaged in secondary transition services, if so, to what extent, if the therapists participated in IEP meetings designed for secondary

transition planning, and to identify potential barriers to occupational therapists' involvement in secondary transition services for students with disabilities.

Results of the pilot study indicated that occupational therapists were not dominant professionals engaged in secondary transition planning and services for students with disabilities (Kardos and White, 2005). The majority of therapists understood IDEA secondary transition terminology, but few recognized implication of IDEA secondary transition services. The majority of therapists did not provide transition-related assessments. Transition-related interventions were often for students who planned to continue into post-secondary education. Thirty percent of participants believed they were participating in secondary transition services to the maximum of their ability. Several barriers to occupational therapists' participation in secondary transition planning and services were identified. Barriers included that transition services were often taken care of by other school professionals, a lack of understanding of occupational therapy's role in transition by other team members, and lack of school system funding. Additional barriers included limited knowledge of appropriate transition-related assessments, large caseloads, and student discharge typically at the age of fourteen. The small sample size limited generalizability, but the study was one of the first to explore occupational therapy's role in secondary transition services for students with disabilities.

Gangl, Neufeld, and Berg (2011) completed a qualitative research study designed to explore occupational therapists' and non-occupational therapy school professionals' perceptions of occupational therapists' role in secondary transition services. The study used semi-structured interviews and one focus group to collect data. Five occupational therapists who worked in a Midwestern southern suburban school coalition participated

in this study. The non-occupational therapist participants included five school professionals who worked with students on secondary transition planning and services. All participants engaged in individual semi-structured interviews. The five occupational therapists, along with one additional occupational therapist, also participated in one focus group.

Gangl, Neufeld, and Berg (2011) used qualitative constant comparison methods for data analysis which revealed three broad themes. The first theme was, “I Couldn’t Even Begin to Describe the Essential Functions of an Occupational Therapist” (p. 158). This theme was derived through non-occupational therapist professionals’ perceptions. The non-occupational therapist professionals indicated that they had minimal contact with occupational therapists, did not fully understand the role of school-based occupational therapists beyond fine motor skills and assistive technology, and had limited knowledge of the potential role for occupational therapy in secondary in transition services. The second theme in this study was, “Unless the Kids Get Direct Services, Which a Lot of These Kids Aren’t, I Don’t Have Any Part in Their Transition Service” (p. 159). This theme was derived through occupational therapists’ perspectives in that they provided minimal transition-related services, were focused on students specified as receiving direct services, and did not provide program-wide or partnership building consultation. The third theme was, “I Don’t Feel That [OT] Is Looked at as a Priority in Transition” (p. 160). Review of all data sources revealed four barriers to effective occupational therapy involvement in secondary transition services. Minimal parental knowledge of occupational therapy, service delivery shift from direct to consultative in

the high school, school professionals and parents' perceptions, and lack of time were established as barriers for occupational therapy services focused on secondary transition.

Gangl and colleagues (2011) identified several areas of interest in regards to occupational therapists' role in school-based secondary transition services. Limited knowledge by parents and other school-professionals was recognized hindered occupational therapy's acceptance in providing occupational therapy services for transition-related skills. Occupational therapists' shift to a consultative role created confusion, and most therapists did not recognize or embrace roles beyond direct service and traditional roles. Lastly, the authors identified several barriers to successful occupational therapy involvement at the high school level for secondary transition services.

### **Person-Centered Occupational Therapy Services**

Michaels and Orentlicher (2004) conducted a study to understand, describe, and explore the role of occupational therapists who are involved in school-based transition services for youth with disabilities. Person-centered, capacity-building transition services in the school system and their implications for post-school success were described through two case study vignettes. Anna, a participant in the study (Michaels & Orentlicher, 2004), was a 21-year-old woman with athetoid dystonic cerebral palsy. She was in a manual wheelchair, used an alphabet board and pointed to letters to speak. She enjoyed fashion and helping others and wanted to be a nurse. Brain was a 21-year-old male with spastic quadriplegic cerebral palsy. He liked to watch movies, go to clubs, eat his mother's Italian cooking, and hang out. He wanted to be a lawyer.

Outcomes were measured by success of the student in obtaining desired goals and the students' satisfaction with the outcome (Michaels & Orentlicher, 2004). The Star of Valued Experiences was used, and included choice, contribution/competence, belonging/community presence, sharing places/community participation, and being someone/respect. Data collection was based on assessment of students' perception of success in contributing, choosing, belonging, being someone, and sharing places. Data analysis was conducted by observation and summary of cases.

By focusing on capacity-building, transition services through occupational therapy aided Anna in being hired at a local hospital to complete clerical duties (Michaels & Orentlicher, 2004). She was trained to use public transportation, attends a recreation program in the afternoons, and is able to dress herself and apply her own makeup. Brian was hired by a local law firm in the accounting office. He was required to wear a suit and tie each day to work. He learned to cook with his mother, and used his power wheelchair to deliver pizzas in his neighborhood.

In using a capacity-building lens, deficits were not addressed and all barriers were portrayed as achievable. The person-centered approach allowed for individualized transition planning goals in which the student was most successful in community life after high school. The study provided evidence of the need and use of person-centered transition planning which focuses on capacity building. Limitations included the lack of additional empirical evidence in the field which supports the claims made by this study. Also, formal use of quantitative or qualitative methods was not used. Rather, case study vignettes were described. Person-centered planning is subject to misapplication due to

systemic barriers. Further evidence needs to be produced in order to solidify the role for occupational therapy services used in transition planning within the school system.

### **Conclusion**

The mandate of the IDEA of 2004 has initiated transition-related services for students with disabilities in the school system (IDEA, 2004). The act includes mandatory transition planning and intervention by the time the student is 16-years-old. Transition planning and intervention services should be directed towards successful post-secondary outcomes. Various disciplines have taken an active role in providing services to aid this population. Disciplines, such as child and family studies, vocation rehabilitation, intellectual and developmental disabilities advocates, and rehabilitation specialists have provided evidence to support the need for transition services for students with disabilities as they complete high school. Braun, Allsopp, and Lollar (2006) completed research which proved that transition planning and services are most effective when they begin during high school years. Davies and Beamish (2009) reported evidence to illustrate the high need for parental involvement in order for students to receive appropriate services. They also found that most students had poor outcomes in independent adult life. Magill-Evans and colleagues (2005) revealed common themes related to changing parental roles and responsibilities as their children transitioned into adulthood with increased autonomy and independence. Jivanjee, Kruzich, and Gordon (2009) found that a strength-based approach was most effective in working with this population. Opportunities for goal attainment and peer support supported the transition process. The research identified barriers to successful transition as lack of preparation, difficulty forming social relationships, stigmatization, and lack of community resources. Leuking and Wittenburg

(2009) were successful in creating an employment preparation program with client-centeredness.

These aspects can be applied to intervention in occupational therapy. Evidence has been produced within occupational therapy which illustrates the importance of occupational therapy involvement in transition services. Kardos and White (2006) identified the need for assessments and evaluation tools within transition for occupational therapists to use to help guide their intervention. Wynn and colleagues (2006) utilized research to establish a community capacity-building program which educated and familiarized community employers with the potential benefits and needs for employees with disabilities. Evans, McDougall, and Baldwin (2006) also incorporated occupational therapy services in their 'Youth En Route' program which focused on personal control and community participation. Using these measures, participants were satisfied with the abilities they gained.

The need for transition services has been established through evidence in various disciplines. Occupational therapy has also established the effectiveness of its role in providing services in this area. Using an evidence-based approach, one can conclude that occupational therapy services would be most effective beginning in the high school setting using a strength-based approach. Spencer, Emery, and Schneck (2003) found discrepancies between perceived need and actual need of occupational therapy services in the high schools by numerous involved professionals and directors. This may be due to a lack of knowledge of the potential services offered by occupational therapy or the lack of definitive evidence to support occupational therapy in the high schools for transition services. Kardos and White (2005) surveyed school-based occupational therapist from

across the United States and found the majority of school-based occupational therapists did not fully understand IDEA 2004 secondary transition implications, they did not fully participate in secondary transition services, and they authors identified several therapist perceived barriers to successful transition related services. Some barriers included limited time, others' and occupational therapists perceptions of occupational therapists' involvement in secondary transition confirmed limited awareness in occupational therapy's potential, student discharge patterns at a young age, and traditional occupational therapy roles all presented barriers to successful occupational therapy involvement in secondary transition planning and services.

Gangl and colleagues (2011) illustrated occupational therapists' perceptions on their role in secondary transition. They confirmed Kardos and White's findings regarding barriers to occupational therapists' involvement in secondary transition. In addition, the authors identified a lack of occupational therapy involvement in program development and consultative services in high schools. Michaels and Orentlicher (2004) clearly connected occupational therapy's scope of practice and success in the high schools as they completed a study using two case vignettes. The two participants were successful in their transition while utilizing occupational therapy intervention.

As evident by numerous research studies in various disciplines, there is a need for transition planning and intervention to be provided for students with disabilities as they transition out of high school. Occupational therapy's broad scope of practice and skill sets allow for opportunities of strength-based, client-centered services which will enhance these students' transition. There is currently a lack of evidence to support



occupational therapy's role and successes in transition intervention at the high school level, but there is an obvious need.

## CHAPTER 3

### **Methodology**

To better understand how occupational therapists utilized intervention approaches while addressing secondary transition services for students with disabilities, grounded theory was integrated into the “Developing a Role for Occupational Therapy in Transition Services” research study. The research study was implemented by the primary investigator, Karen Summers, who is an occupational therapist working on her Ph.D. in Rehabilitative Sciences at University of Kentucky. The study, “Developing a Role for Occupational Therapy in Transition Services” (also referred to as PUSD study), was conducted with the objective of documenting how occupational therapists developed their role in secondary transition services for students with disabilities. The intent was to share results of the study with other occupational therapists and school districts in order to support their development of secondary transition programming in their own district. Partnerships with professionals from Arizona State Board of Education, Peoria Unified School District (PUSD), and the American Occupational Therapy Association enabled a collaborative review of occupational therapy practices in PUSD located in Peoria, Arizona. Institutional review board approval was gained from the Arizona’s Peoria Unified School District, University of Kentucky, and Eastern Kentucky University. Data for the PUSD study was collected for two academic years beginning in August 2010 and ending in May 2012.

The PUSD study used qualitative participatory action research methods to collect data through therapists’ written reflections, conference call discussions regarding monthly transition-related occupational therapy services, and individual participant

interviews. Participants were selected via a convenience sample from PUSD and are described below. Informed consent was obtained and all identifying information was replaced to maintain confidentiality.

### **Research Design**

Using the data generated in the first academic year of the larger study, this author implemented a qualitative, grounded theory approach to investigate the intervention approaches used by occupational therapists as they provided secondary transition services for students with disabilities. Grounded theory produces theories to describe “actions, interactions, or process” (Creswell, 2007, p. 239). This research design is commonly used in the social sciences, such as sociology, psychology, anthropology, social work, and nursing (Strauss & Corbin, 1998).

Grounded theory is a general methodology (Strauss & Corbin, 1998) that provides “a set of flexible analytic guidelines that enables researchers to focus on their data collection and to build inductive middle-range theories through successive levels of data analysis and conceptual development” (Charmaz, 2005, p. 507). Data collection in grounded theory studies often consists of interview transcriptions, observation, personal journals, and video recordings (Creswell, 2007). Data analysis involves constant comparative analysis throughout the data collection and final data analysis processes to fully understand the dynamics portrayed throughout the data (Glaser, 1965; Glaser & Strauss, 1967).

Typical grounded theory data analysis occurs in stages (Creswell, 2007). Data analysis begins during the data collection process. Overall data collected at initial data analysis is reviewed for common themes seen in most documents. These common

themes, also known as categories, become codes used for open coding. Open coding is “focused on densification, or the building of relationships among those categories- including noting relevant conditions, strategies, tactics, interactions, agents, consequence” (Strauss, 1987, p. 243). Properties or subcategories are seen during open coding. Analytic memos are written for each category which describe relationships between properties, actions, and are supported with direct quotes from the data.

Categories, memos, and additional data are reviewed again to develop overarching axial codes. Data is reanalyzed to reflect axial codes to determine a central phenomenon for the topic being researched. Final stages include selective coding, which is a narrative that connects categories, and creation of a conditional matrix, which is a visual representation of the relationships between categories and coding levels.

Following several levels of comparative analysis, theoretical conceptualization identifies relationships and “patterns of action and interaction between and among various types of social units” (Strauss, 1987, p. 169). The final result is substantive-level theory, which can be applied to similar situations as the phenomenon studied (Creswell, 2007).

“Grounded theory studies emerge from wrestling with data, making comparisons, developing categories, engaging in theoretical sampling, and integrating analysis” (Charmaz, 2005, p. 510).

### **Research Question**

How do occupational therapists use interventions while developing occupational therapy transition services to secondary students with disabilities?

## **Participants**

Purposive sampling was utilized to recruit participants who were interested in developing a role for occupational therapists in transition programming, because team members guide the research in the action research process. Purposive sampling is commonly used within qualitative research, especially grounded theory, so that pertinent concepts and theories can emerge (Cutcliffe, 2000). Administrators from the Peoria Unified School District identified potential research members to make the research team. Participants in year one of the larger study included eight occupational therapists and one Arizona Department of Education administrator.

## **Procedure**

IRB approval was obtained, participants were recruited, and data collection began in August 2010. All data collected in the first year of data collection for the PUSD study was used for the current study. Data included start-up reflections from all participants, where the participants wrote about their perceptions of secondary transition services for students with disabilities and occupational therapy involvement prior to the beginning of the study. Questions, concerns, or comments regarding the study were also included in the start-up reflections. Transcriptions of audio recorded team meetings and discussions via conference calls were also included in data analysis. Participants met in one location in Arizona and researchers met in one location in Kentucky. Communication was established through conference call networking. Team meeting organization was developed through an action research process and consisted of discussions regarding the participants' involvement in secondary transition planning services at the high schools in the Peoria Unified School District, team issues, changes in services provided, desired

changes in the research process, or identification of no change in transition services related to development of the role of occupational therapy. Personal reflections from each participant guided by questions determined through team agreement from September, 2010 through May, 2011 were also included in data analysis for the current study.

Documents were titled by date (month/day/year), name, and type of document (startup, transition, weekly reflection). All documents were stored and retrieved through a secure website which was password protected. An audit trail was maintained by the primary researcher to ensure that the action research process was progressing, was methodologically rigorous, and informed the development of an improvement to transition processes.

### **Analysis**

Data collected from August, 2010, to May, 2011, were included in the data analysis process for this study. In ground theory, data analysis occurs throughout data collection (Charmaz, 2005).

### **Open Coding**

Data collected from August to December 2010 were reviewed individually by three researchers to determine common categories. Three category sets were compared and compiled to generate seven common categories which were used as open codes according to grounded theory analysis (Creswell, 2007). The initial seven open codes were established to allow further breakdown of the data as in grounded theory (Glaser, 1965). The open codes were used to categorize all data sets and included (a) type of delivery; (b) assistive technology; (c) equipment and accommodations; (d) handwriting;

(e) hindrances to intervention; (f) other interventions; and (g) population and cases. Once coding was complete, the data within each code was further analyzed. Subheadings for each code represented the most common concepts discussed within each code. Open coding began in January, 2011, utilizing HyperRESEARCH software. Open coding continued as data were collected. Analytic memos were written for each open code. Refer to Appendix B for a list of data used to generate each open code memo. Memos described categories revealed through analysis of each open code. A category is defined as a unit of commonly occurring information within the data. Categories are identified with a short label, used throughout data analysis, and compared in open and axial coding (Creswell, 2007).

### **Axial Coding**

After all memos were completed and categories revealed for the seven open codes, further categorization of common themes allowed for development of axial codes. Each researcher individually reviewed open code memos for overarching categories. The three sets of categories were compared and compiled to create four axial codes. The axial codes represent saturated themes throughout all data sets and open codes. Axial codes for this study include (a) building transition repertoire; (b) collaboration and relationships with other team members; (c) transition interventions used; and (d) therapists' perspectives of individual students.

Axial codes in grounded theory pinpoint a central phenomenon used to support and develop theory (Creswell, 2007). Central phenomenon is defined by Creswell (p. 237) as:

This is an aspect of axial coding and the formation of the visual theory, model, or paradigm. In open coding, the researcher chooses a central category around which to develop the theory by examining his or her open coding categories and selecting one that holds the most conceptual interest, is most frequently discussed by participants in the study, and is most ‘saturated’ with information. The researcher then places it at the center of his or her grounded theory model and labels it ‘central phenomenon.

The central phenomenon is the most grounded theme or idea identified following numerous levels of analytic review. Central phenomena and memos established regarding intervention approaches by occupational therapists in secondary transition services for students with disabilities will be included in the overall data analysis of the “Developing a Role for Occupational Therapy in Transition Services” research study.

### **Trustworthiness**

Trustworthiness and credibility of this study was established through three means. Triangulation of investigators was established by having three researchers on a team for this study. Triangulation of data was used evident through data collection. Data were obtained through participants’ personal reflections at the beginning of data collection, weekly reflections of the participants’ school-based experiences, individual interviews, and group conversations with the research team and participants. Data analysis triangulation was achieved, as well. Three researchers individually analyzed and coded data. Three team meetings with the researchers were dedicated to review, discuss, and merge concepts for codes, including open and axial codes. Peer examination was used throughout data collection and analysis. These aspects demonstrate this study’s



credibility, dependability, and confirmability which establish its trustworthiness and value (Krefting, 1991).

### **Methodological Assumptions**

1. A purposeful sampling strategy will provide data relevant to occupational therapy intervention methods used while focusing on secondary transition services for students with disabilities.
2. Constant comparative methods will provide meaning of human actions to support and develop theory.
3. Constant comparative methods will be reveal saturation of codes within the data.
4. Theory derived from data will represent saturation of occupational therapy intervention methods utilized in school-based practice targeting secondary transition services for students with disabilities.

### **Limitations**

1. Team meetings were completed through conference calls due to multiple locations of participants and researchers.
2. Participants were limited to professionals working in Arizona and occupational therapists in Peoria Unified School District.
3. Data collection for the current study was extracted from a broader study focused on development of the occupational therapists' role in secondary transition services for students with disabilities.
4. Researcher is not yet an experienced occupational therapist.

## CHAPTER 4

### **Results**

The following chapter describes the most common themes described throughout the data. Data included startup reflections, weekly reflections, and team meeting transcriptions. Startup reflections were written by each participant regarding their expectations of the research study, what they knew regarding secondary transition, and their goals for the research study. Weekly reflections were completed by participants. The weekly reflections answered team-determine questions, discussed the participants' use of transition services while providing occupational therapy in the school system, and reflected participants' questions or concerns. Monthly team meetings were audio-recorded and transcribed verbatim. Multiple levels of comparative analysis and coding were used throughout data collection. Codes and axial themes reflect common categories and themes extracted from the data that were produced through constant comparative analysis of all data. Results in this chapter reflect open coding categories and axial theme description supported by quotes from data.

#### **Open Codes**

Seven open codes were established which reflected common occurrences within the data set. The codes were broad which allowed for development of detailed categories and concepts reflecting all areas in the data which were illustrated in individual memos. The seven codes were type of delivery, assistive technology, equipment and accommodations, handwriting, hindrances to intervention, other interventions, and population and cases. The codes are described below by levels of categories and quotes from the data set.

## **Type of Delivery**

The type of delivery from occupational therapists in the high school setting varied. Occupational therapists primarily offered consultative services when collaborating with IEP teams, teachers, parents, and additional professionals in order to appropriately recommend accommodations and prospective goals for the student. A therapist referred to their sense of purpose in service delivery by saying:

I really feel a sense of purpose is to bring the pieces together and to facilitate meaningful participation in education for students if that means remediating a weakness, teaching a compensatory skill, determining an appropriate accommodation, training a teacher or members of a school team, or contributing to conversations about modifications. (12/17/10 Simmons Weekly Reflection)

Participants reflected on their roles in the school-based setting working on various goals. Categories describe common service areas of type of service delivery while working in the school setting.

**Consultation and goal writing.** Occupational therapists acted predominantly as consultants, collaborators, or supplemental support providers in numerous contexts when providing transition services for students. Occupational therapists were advocates for students during team IEP meetings by supporting goals which reflected the students' strengths and most desirable outcomes. Therapists clearly articulated appropriate accommodations, recommendations, and desired goals for students. Additional areas in goal writing offered by occupational therapists included the students' preferred learning styles, home exercise programs, sensory preferences, strengths, areas of need, and

strategies to gain best results. Therapists offered evaluation data to support the team's decision making.

Our goal is to bring meaningful data to the table regarding a deficit or a weakness or to determine the strength or to help guide the team to making appropriate recommendations for the child, our goal is to influence that entire IEP (10/01/10 PUSD Team Meeting Transcript)

Another therapist explained the longevity of occupational therapy support throughout students' school experience. Therapists offered support throughout students' schooling which enabled easier transition service provision, as occupational therapy was not removed from the students' IEP despite limited direct occupational therapy time.

We are not dropping kids off at sixth grade anymore. You know, even if we are not providing a direct service per say that we have a goal that we are collecting all the data on we are trying to collaborate with our teams to help them write reasonable goals in the classroom. (09/03/10 PSUD Team Meeting Transcript)

**Informal collaboration with professionals.** Along with consultative services, and acting as student advocates during IEP meetings, occupational therapists offered consultation services to regular education teachers, resource teachers, vocation rehab specialists, special language pathologists, behavior specialists, and physical therapists. Collaboration was a term often used when describing communication between specialists, teachers, parents, and others.

**Settings and populations.** Occupational therapy settings varied. Services were provided in high schools, middle schools, and elementary schools. Services were also provided in community settings. Students' had various diagnoses, such as multiple,

significant disabilities, ASD, emotional behavior difficulties, learning disabilities, cerebral palsy, visual impairments, and typically functioning individuals. Ages identified include 5 years to 22-years-old.

***High school.*** High schools were the predominant location of transition intervention. Resource rooms, self contained classrooms, high and low incident rooms, physical education gymnasiums, and regular education rooms were all utilized. An adult transition center designed for students who were 19-22-year-olds and a school for students with autism were also settings used by occupational therapists for transition intervention.

***Elementary and middle school.*** Occupational therapists who worked in elementary and middle schools designed goals, remained on IEP's providing supportive services, or added themselves to students' IEP's in order to target transition needs. Predominate services at these schools were focused on handwriting, assistive technology, adaptation, environmental modifications, and classroom participation. Therapists did reflect on their heightened awareness of students' future transition needs while working in elementary and middle schools. Efforts were made to remain on younger students' IEP as supplemental supports to provide opportunities for recommendations by occupational therapy at annual meetings. A therapist spoke about a 5-year-old's occupational therapy needs, and said, "I was able to advocate for a child so that when he is 18, he might have the social skills needed to appropriately interact socially in a job setting" (11/26/10 Jones Weekly Reflection).

***Community setting.*** Community resources, such as adult day cares, local parks, and wholesale stores, were incorporated in occupational therapy services. Community

settings enabled therapists to evaluate students in community placements, provide information regarding postsecondary placement options to professionals and parents, determine appropriate adaptations and modifications, and offer direct skills training. Enhancement of community partnerships was discussed as an area of need within transition services and occupational therapy.

**Establishment of relationships at the high schools: Advocate and build trust.**

Relationships between the occupational therapist and other professionals were discussed as the relationships impacted delivery of occupational therapy services. One therapist stated that he “viewed OT’s interaction on the high school more or less like public relations and maybe a little bit of consult here and there” (09/03/10 PUSD Team Meeting Transcript). Therapists talked about building relationships with high school administration, educating teachers regarding benefits of occupational therapy in high school, and further collaboration with teachers and related service professionals as necessity for establishing relationships and trust with high schools.

One therapist signified his relationship building endeavors by stating that he “introduced occupational therapy and attempted to educate leader of self-contained E.D. classes how occupational therapy may benefit the program’s students during the transition process” and he “met with guidance counselor at SMHS to get insight into ecap process (curriculum planning process),” to better understand the high school policies. Not only did therapists attempt to educate professionals on the role of occupational therapists and advocate for students, but building trust was an initial step to build relationships.

**Training and assistive technology.** Occupational therapists established relationships with teachers and students as the therapists offered training in assistive technology, equipment use, and accommodations training. Assistive technology training was identified as a specific type of service delivery. Occupational therapists were often identified as assistive technology specialists because of their increased knowledge in the area. A therapist said:

OT was invited to offer assistive technology and organizational suggestions by the resource teacher. Again, although we're not the only team members who can offer technology suggestions, this seems to be our way of 'getting our foot in the door,' because we have the most knowledge and training regarding some of the new technology our district is acquiring. (11/22/10 Barnes Weekly Reflection)

Therapists advocated for students' use of assistive technology, and they were able to train teachers and students in proper use of the devices. Students' needs for assistive technology were recognized, and therapists were often assertive to add themselves to the team:

I added myself to a 3<sup>rd</sup> grade student's IEP to provide support for assistive technology and adaptations for writing. Influenced team to add an assistive technology goal of typing to increase the student's typing from 5 words per minute to 10 words per minute with the plan to implement a word processing device upon his ability to type 15 words per minute. (10/29/10 Jones Weekly Reflection)

Therapists also encouraged the use of technology and trained teachers and students on proper use.

I scheduled and trained the lead teacher at one of my high schools class in assistive technology. I showed her students how to utilize writers and how to train themselves in typing using the writers. I encouraged the students to utilize this to complete essays and writing tasks that they are unable to complete on the library computers. (11/05/10 Jones Weekly Reflection)

**Minimal direct services.** Direct services were provided by occupational therapists but were not the primary form of service delivery. Some direct services included training students to use assistive technology, adapting tools used, and modification training tools, such as use of a picture flip-book. Due to time and resource constraints, therapists provided less direct therapy services in the high school than in elementary school. One therapist directly stated the difficulty associated with direct services.

Therapy wise it doesn't really make since if we are on a campus once every six days and you throw a weekend in there and maybe it is once every seven days. And we are doing a direct intervention you know maybe ten days and we are doing a direct intervention with that student and calling it therapy just the whole model is strange to be medically based intervention. Because you know we would not pull someone who had an injured thumb you know that needed to be splinted and stretched we would not pull them once a week for three years. (10/28/2010 PUSD Team Meeting Transcript)

Despite limited direct services, therapists engaged in consultative roles as resources for teachers.



### **Change from direct services to supplemental and consultative services.**

Occupational therapists commented on their changed roles in delivery of services from direct services to collaborative and supplemental services. There was a shift to serve students through training teachers and aides. Teachers and aides tended to work with students more directly to implement recommended accommodations coming from occupational therapists.

We thought we'd have his service time reflect some of the direct time where we might be teaching him to use the visual cues initially, but then we could just consult with the teachers. (11/24/10 Johnson Weekly Reflection)

Therapists recognized the need educate teachers on the role of occupational therapy, as well as advocate for student success through occupational therapy services. Because of this, teachers and school professionals became more aware of the resources occupational therapists offer. Teachers and school professionals made specific referrals or requests for therapists to observe or reevaluate students that had either previously had occupational therapy or who the teacher thought may benefit from occupational therapy services. In addition, occupational therapists offered services to whole classrooms of students regardless if all students qualified for occupational therapy services.

### **Assistive Technology**

Assistive technology (AT) was an essential tool used by occupational therapists in the school setting. Numerous devices, programs, and tools were utilized to enhance the educational learning, as well as functional, emotional, vocational, and independent pursuits of the students. Therapists described their experiences in working with other professions, student success, hindrance, and funding sources.

**Collaboration with team to provide most appropriate AT.** Occupational therapists role in transition afforded opportunities for collaboration with other school professionals in order to determine the most beneficial accommodations for student success. The dialog amongst professionals allowed opportunities for occupational therapists to become trusted AT specialists. The participants expressed enthusiasm for the opportunity to advocate for occupational therapy, AT, and transition.

**Type of delivery: Consultation.** Occupational therapists used a consultative role associated with assistive technology. Education, training, and suggestions were made by occupational therapists regarding AT use and modification for teachers, school professionals, students, and entire classrooms. The therapists consulted with several school professionals, including resource teachers, speech language pathologists, a hearing impaired teacher, a vision teacher, an assistive technology teacher, district representatives, a transition IA, aides, an assistant principal, high school staff, and IEP teams.

In addition, occupational therapists educated students on proper and functional use of numerous AT tools. Therapists worked with students in direct services, as well as teaching entire classrooms of students who may not have received occupational therapy services. There was an initiative to encourage AT as a therapist indicated, “We are going to try to implement technology for the whole classroom at every level” (09/03/10 PUSD Team Meeting Transcript).

Evaluations were discussed in terms of evaluating or screening students for the appropriateness to suggest AT. Lastly, supplemental services were used as therapists remained or were added to IEP’s to provide training, modifications, and adaptations using

AT tools. A therapist reflected, “I also included additional OT time in the area of supplemental aids and services so that I can train the student/teacher, even though I am already in her IEP in a minimal consultative role” (11/12/10 Jones Weekly Reflection).

**Students served.** Specific grade levels receiving occupational therapy services for AT ranged from third grade to eleventh grade. Disabilities included sensory processing disorder, emotional disorder, ADHD, degenerative neurological disorder effecting hearing and vision, learning disorder, Autism, undiagnosed Autism Spectrum Disorder, and other learning disabilities. Services were provided for individual students, classrooms, and students who did not typically receive occupational therapy.

**Possibilities with AT.** Assistive technology provided optimism among numerous participants. Technology tools were referenced as expanding possibilities for students’ success in and after high school. Therapists spoke about students’ benefits to future employment and post-secondary education options that would be available as a result of assistive technology.

**AT devices and funding.** Therapists spoke about specific assistive technology tools that they utilized their students. These included software programs, such as WordQ, SpeakQ, and Wynn, laptops, websites, keyboarding and typing skills, cell phones, a reading pen, voice-to-text programs, word processing devices, CCTV.

I’ve noticed that many of the students are not using the tools that have been outlined for them in their IEP’s. So, I brought in three writers and did timed typing tests with each student. I also discussed with the students the consideration of using their phones to manage dates and timelines for projects, assignments, and to remind them to study for a test. (10/18/10 Simmons Weekly Reflection)

Discussion was raised regarding an appropriate area of occupation to use in classifying AT. In a team meeting, the question was asked if AT is considered communication.

It does not always necessarily have to do with communication so it is not necessarily just a talker or the software on their phone to organize them. That is kind of not even communication; it is almost I don't know what that would fall under, workplace skills. The AT would almost fall under workplace skills. and this example is where we are talking about the staff member that help the student organize themselves a little bit better with a using their telephone their cellular phone. So I think assistive technology is a little more global than just a piece of AT for communication (10/28/10 PUSD Team Meeting Transcript)

Funding for specific AT tools and devices was discussed. "Our district was awarded something close to \$6million dollars for special education from the American Recovery and Reinvestment Act. Our leadership has chosen to use that money for training efforts and to improve Assistive Technology for high incidence disabilities" (12/03/10 Simmons Weekly Reflection). In addition, a High Incident and Assistive Technology Grant was specified as being used by the school to buy assistive technology devices.

**Reactions to AT by other professionals.** Overall, most professionals were very enthusiastic towards the use of assistive technology. Occupational therapy was requested specially for AT evaluation and many teachers were enthusiastic to learn new programs. However, there was also resistance from some school professionals.

***Occupational Therapy requested for AT evaluation.*** Occupational therapy was requested for students in order to screen or implement AT education and determine appropriate tools. A therapist said, “I have noticed the kids that have come to my attention are receiving occupational therapy, generally are identified because of the need for or the use of assistive technology” (10/01/10 PUSD Team Meeting Transcript). Occupational therapists were asked to attend IEP meetings or joined IEP teams once they recognized students that could possibly benefit from AT. Therapists were also sought out by school professionals to train teachers or classrooms on AT. “We have had a couple of opportunities a resource teacher has asked us to set her up with some assistive technology tools in her classroom that she can use with all her students and we have started that” (10/01/10 PUSD Team Meeting Transcript).

***Enthusiasm.*** Enthusiasm to use assistive technology from other school professionals was evident. A therapist indicated a resource teacher’s positive attitudes towards AT by saying, “You can tell she is very confident in our knowledge and skills and asks questions about the technology and seeks us out to look at technology options for students” (11/01/10 Johnson Weekly Reflection). Positive attitudes towards AT was also evident by school administration. “The assistant principal asked me to include him in the training and introduction of the software to the student because he thought it was amazing. So, through discussion of these assistive technology tools, the assistant principal is now affected!” (11/22/10 Barnes Weekly Reflection).

***Resistance from teachers due to lack of knowledge in AT.*** Therapists were confronted with resistance from some professionals due to lack of knowledge, doubts, or previous difficulties regarding AT. A therapist discussed limitations on student success,

“Progress was very limited because he did not yet know all his letters but also because the teacher refused to use the computer much; it was very frustrating” (10/15/10 Simmons Weekly Reflection). But, the therapist later learned that the teacher “was apprehensive because she was not aware of what type of hardware and software was available or how it would be useful” (12/03/10 Simmons Weekly Reflection). Another therapist wrote:

I am working more closely with resource teachers in the high school level. I am beginning to provide increased support and education relating to assistive technology for the staff. Collaboration included ‘pushing’ the lead resource teacher to allow me to train her in high incidence technology after she admitted to me difficulties with buying into current adaptations available on her campus. (09/30/10 Jones Weekly Reflection)

Despite resistance, therapists advocated for occupational therapy and AT and continued to educate individuals on the importance and possibilities afforded to students by AT.

**Student success.** Therapists reported positive student responses. The students were confident while using the technology, “the student is motivated to try, is not self-conscious about perhaps looking a little different than his peers” (10/29/10 Barnes Weekly Reflection). Students were afforded opportunities to build self advocacy and self esteem. Not only were the students responding positively, but general education teachers were pleased, as well.

[A therapist] spoke to the history teacher, gave specific, concise directions to AS and then sent home an email outlining the assignment expectations, while I emailed the WordQ home version link to his parents. Well, the report back today

from Amy, the Lead Resource Teacher, is that he was on fire! He spent 90 minutes independently typing parts of his history project using the word prediction software successfully. He was very happy, as was his teacher.

(12/09/10 Barnes Weekly Reflection)

### **Equipment and Accommodations**

Therapists offered a unique approach in equipment, accommodation recommendation, and implementation. Creativity and ideation in activity analysis for accommodations allowed therapists to contribute to student success in this area. Communication and collaboration with teachers, parents, and other professionals was important to follow through with appropriate use of equipment and accommodations. Goal setting and knowledge regarding available options for equipment and accommodations was needed in order to effectively assist students. With appropriate goals and use of equipment or accommodations, the students were able to be successful. These successes allowed for true abilities of the student to be seen. Lastly, the role of the occupational therapist was discussed as advocating for students and occupational therapy, as well as recommending and implementing equipment and accommodations.

**Creative opportunities for accommodation and adaptation.** Therapists described situations in which they were able to use creative ideas for accommodations. Examples include a therapist purchasing and building a desk for a kinesthetic learner to be able to stand at, spending \$1,000 to stock a “Life Skills Classroom” in which students could actively participate in learning life skills, use of the resource room as an accommodation for a student to use self-directed time out when over aroused, and a

simple idea to provide aerosol deodorant for a student with limited UE ROM who was practicing employment skills.

**Collaboration with teachers, parents, and school professionals to implement accommodations and equipment.** Collaboration with teachers, parents, and other school professionals was mentioned several times. In order to appropriately implement accommodations and equipment, all individuals who assist the students needed to be informed of proper use and recommendations. Therapists also provided suggestions and recommendations for appropriate accommodations for individual students.

**Difficulty creating strength-based goals that utilized accommodation and adaption.** Difficulty with goal setting and a lack of knowledge regarding appropriate accommodations was revealed. Therapists discussed struggling with determining goals based on student strengths and providing accommodations to enable the students to complete activities.

The concern that still lingers for me regarding Transition is how I can make relevant observations/comments about her future career goals. As this time, she states she wants to be a cake decorator or a wedding planner. I can easily list all the reasons why this will be a challenge for her or at least give her a list of considerations as to how she will need to accommodate the job expectations so she can meet the demands, but what I don't know how to do is to outline her strengths, pair them with her interests and guide her to an alternative career plan that will be of interest to her and fall within her physical capabilities. This is a major problem I see in Transition right now. We have a bunch of tests to say



what your aptitudes or weaknesses are. But we can't pair those with jobs.

(10/15/10 Simmons Weekly Reflection)

**Accommodations and equipment remove barriers presented by disability.**

Therapists worked with students who had varying disabilities. Use of equipment and accommodations allowed for the students to function at the best of their ability in the classroom and with transition related skills. Accommodations and equipment allowed students to perform to their capabilities by removing barriers due to disability. Therapists referred to the impact of accommodation on the students' life following high school through improved post-secondary and vocational decisions based on knowing their own abilities as afforded by accommodations and equipment.

**Therapists' role in training teachers proper use of accommodation to better assist students and advocate for student use.** Therapists discussed their role in providing recommendations, training teachers, and implementing accommodations. They educated teachers to enable teacher assistance for students while using accommodations.

At this time I will be setting the 5th grade student that I did not discharge up to learn voice to text adaptations on a computer within the resource room and will also be teaching his resource teacher this adaptation to follow up with him daily; and so that she can introduce this adaptation/ accommodation to other students who might need it. (10/22/10 Jones Weekly Reflections)

In addition, therapists advocated for occupational therapy's role in transition and accommodation, as well as for students' best interests.

## **Handwriting**

Change emerged as a common theme throughout discussion of handwriting intervention. Perceptions by therapists regarding their role in handwriting intervention, as well as other professionals' perception of the occupational therapists' role became apparent. Lastly, intervention strategies were identified. These topics are described below.

**Changed focus from handwriting to functional skills.** An overarching theme of change prevailed throughout handwriting data. Occupational therapists expressed a change in their perceptions of their own role with regards to handwriting and fine motor skills. Implications were noted in student goals which became more focused on functional abilities than handwriting and fine motor skills. Therapists expressed a change in goals to include adaptations, assistive technology, and functional communication.

In addition, intervention strategies changed. Interventions indicated a change from fine motor labs, hand strengthening exercises, and established handwriting programs to functional adaptations, assistive technology, and transition-based interventions. Collaboration and consultation were provided to teachers and IEP teams to encourage shift towards functional skills.

**Change in perception to focus on all performance areas beyond fine motor skills.** A change in perception was evident as occupational therapists advocated for holistic practice. In a team meeting conference call, a therapist identified her advocacy efforts by encouraging occupational therapists to utilize all areas of performance rather than focusing on fine motor skills. The therapist said:

I am trying to help OT's understand they can use their broad scope of practice and that they can look at all areas all performance areas you know work, play, leisure our domain but you know what are those domains called in school. (10/28/10 PUSD Team Meeting Transcript)

**Intervention.** Intervention used while focused on handwriting was described. Specific disabilities identified included moderate to severe cognitive impairments, high function autistic disorder, cerebral issues impacting visual spatial skills, and motor deficits. Intervention was provided in self-contained classrooms in elementary and high schools.

***Evaluation of fine motor skills.*** Therapists began with various evaluations to determine students' abilities. Evaluations included:

For this student, I administered the VMI and VMI perceptual and motor subtests, the QNST II, the Adolescent Sensory Profile, Benbow Hand skills, A typing test, handwriting sample and asked the parents to complete the Short Questionnaire of the Sensory Profile. (12/03/10 Simmons Weekly Reflection)

***Intervention strategies and programs used.*** Direct and supplemental services were provided in regards to handwriting intervention. Interventions specified included fine motor labs to increase dexterity, overall body strengthening, letter formation practice, and use of assistive technology. In addition to specific intervention, programs identified included First Strokes and Handwriting without Tears.

***Limited contact hours hindered therapy results.*** Therapists identified limited results following handwriting intervention due to limited contact hours with students. One therapist identified difficulties with limited results as she only worked with a student

once per week for a thirty minute session. Another therapist identified limited results in previous direct services for another student. “Ironically, the kid has been receiving direct occupational therapy services to work on fine and visual motor skills for the last 15 years and it hasn’t really made a dent” (11/24/10 Johnson Weekly Reflection).

**Student communication through assistive technology.** Therapists did explain effective use of assistive technology implementation rather than direct occupational therapy service focused on handwriting. A therapist explained the benefits of AT in communication below:

The student had progressed to the point of knowing all his letters (while he was at another school) and if the teacher was going to continue to force the idea of written expression, she needs to do it in a way that is sustainable and functional for the child. Copying sentences when it takes him 6x as long as a peer and at this time he can’t even read the words in the sentence is just plain ridiculous. But if he practices keyboarding the words on the computer and we install software (Word Q) that will read each letter or word that is typed, it may actually improve his reading skills. Because now he will be getting the visual and auditory feedback for the words he is “writing.”(10/15/10 Simmons Weekly Reflection).

### **Hindrances to Transition-based Intervention**

Therapists described numerous hindrances to providing transition-based intervention services for secondary students with disabilities. Several areas were identified, including lack of transition knowledge, limited resources, and a definitive role for occupational therapy presented challenges. Student barriers, collaboration, and appropriate documentation were discussed as hindrances to intervention, as well.

**Knowledge and experience.** Limited specific knowledge and experience regarding transition intervention was discussed numerous times as a hindrance to intervention delivery. Therapists lacked knowledge, training, capacities, and experience to appropriately provide services in this area. This notion was clearly stated in a start-up document:

In terms of my background on transition and my knowledge of transition up to last year, I honestly didn't have any. I know that it wasn't an area that was addressed during graduate school and it never came up during my fieldwork experiences in the school system. (N/D Johnson Startup Reflection)

***Lack of knowledge for intervention plans designed for specific job skills and responsibilities.*** Areas that therapists indicated as having limited knowledge included various occupations, job opportunities, and vocational responsibilities for specific jobs that students could be exposed to and trained in. In addition, a hindrance to intervention within transition involved the perceived lack of knowledge regarding intervention plans for specific skills. A therapist clearly stated, "I am still really struggling with my questions about my intervention knowledge. I am just so busy, it is hard to find time to research and learn new techniques. Not to mention, the school is not the place to practice in that manner" (04/22/11 Simmons Weekly Reflection).

***Difficulty pairing student abilities to specific job requirements.*** In addition to knowledge regarding jobs, therapists indicated lack of ability or knowledge in pairing student abilities to job requirements. Therapists recognized student interests, strengths, and areas requiring adaption, but had a limited knowledge base of various vocational requirements needed to match student abilities to vocational pursuits.

***Occupational Therapists' lack experience in transition-related services.***

Additionally, therapists lacked their own experiences and capacities to reference within transition intervention. When discussing occupational therapy and transition to other professionals, one therapist indicated difficulty in fully explaining her experience. She stated:

When discussing Occupational Therapy's role in transition to psychologist and lead high school resource teacher I was able to discuss OT's relevance in theory, plan, and concept. At this time I feel lacking in my ability to present an actual plan and reference things that I have tried that work. I was at this time forced to let the resource teacher know that we are in a process trying to establish a concrete system that can be proven through research, since at this time we are the research. (10/08/10 Simmons Weekly Reflection)

Through this research project, participants reported increased understanding of transition, but faced barriers in providing transition-related intervention. A therapist indicated his comfort in transition as having "sea legs" in stating the following.

It is like we are getting our sea legs, we are getting used to the transition but now we have to learn how to function in it. It is a whole new world but there are still a lot of IEP's that have the old goals in them and then getting the staff to understand you know the people that we work with to collaborate on what we are doing and so the shift is for us to now better explain. (10/28/10 PUSD Team Meeting Transcript)

***Other professionals lack knowledge in transition-related services.*** Therapists reported hindrances in advocating for occupational therapists' involvement in secondary

transition for the community. A therapist said, “I realized that all the work we are doing in the community to teach others about what occupational therapists can do in Transition is not going to be applicable if we don’t develop the capacity in the OT’s first” (10/22/10 Simmons Weekly Reflection). Not only did therapists report on their own lack of knowledge in this area, but they identified other professionals’ lack of knowledge regarding transition, as well.

*Case managers.* Students’ case managers were identified to have limited knowledge of student needs related to transition planning.

What I came to realize is that the transition process seems somewhat enigmatic to the rest of the team also. The information was very limited and “shallow” in explaining how to get this student from where he is now to his transition goals. There seems to be some knowledge that I was getting from B that even this student’s case manager seemed not to either know or embrace. (09/24/10 Jones Startup Reflection)

*Teachers.* Therapists indicated a low percentage of transition services were being provided by special education teachers. A district rating was cited in a team meeting that the Peoria Unified School District has 46% compliance in the area of secondary transition services. Therapists attributed this to the teachers’ lack of knowledge and understanding of secondary transition planning and services.

**Lack of definitive role for occupational therapy in transition at the high school.** Several areas regarding the specific definition and expectations of occupational therapists’ role in transition have been reported as hindrances to intervention for transition. These areas included past habits, responsibilities, confinement under specific

classifications for documentation, lack of organized student information collection and dissemination, boundary lines for occupational therapists' duties when addressing services that may potentially be addressed by another profession, lack of a clear definition of what occupational therapy is in the high school setting with regards to transition, and how occupational therapy could be utilized in high school. The lack of a definitive role for the occupational therapy in the high school and working in transition presented numerous questions. A participant reported feeling overwhelmed due to the lack of clear definition of her role in the high school. She said, "I have really struggled through this semester in my emotions, my insecurities, my time, my energy, my creativity and my sense of self and purpose" (12/17/10 Simmons Weekly Reflection).

***Past roles.*** Past roles of the occupational therapist were identified as providing services for handwriting, classroom modifications, motor skills training, and evaluations. The past responsibilities were indicated as limiting current service areas and qualification criteria. Limited knowledge on potential opportunities and qualifications beyond previous services offered have been stated as hindering intervention.

***Handwriting.*** In the past, intervention strategies were often habituated around handwriting. Therapists discussed how they were known in as handwriting specialists within their school districts and in all grades.

I felt that I had been reduced to a "handwriting" teacher and was becoming, many times, the primary service provider in this area. Teachers weren't teaching kids how to write letters at all in our self-contained programs (and our resource rooms when needed), seeing that as the role of the OT. And progress was limited for these kids because as we know, daily practice is necessary for skill mastery



especially for students with cognitive delays or learning difficulties of many sorts. (N/D Simmons Startup Reflection)

***The motor box.*** A recurrent question related to documentation, but encompasses the overall role of occupational therapy in the high school, is the ‘motor box.’ This is an option within IEP transition documentation indicating what services the occupational therapist addressed regarding the students’ motor abilities. Therapists questioned and expressed concerns that using this box would limit their opportunities to work in diverse performance areas beyond motor functions.

And I feel like OT, because we’re only filling out that motor box because they only start to put something in that motor box, we forget to be good OTs and look at that whole child. And we forget to look at their work place skills and ask questions about social/emotional/behavioral or just what are some tools we have available for daily living. So then I want to build, this is the year, I’ll tell you another reason why this is the focus. (12/10/10 PUSD Team Meeting Transcript)

Other professionals have indicated perceptions that classify occupational therapy services as motor skills, handwriting services, or sensory training.

What was so interesting about this RED for the 8th grade student was the psychologists’ perspective. On our paperwork, a need area has to be indicated along with a list of the assessments to be given and the person responsible. The psych wanted to list the need area as Motor because I (the OT) was conducting the assessment. It really didn’t matter what I was measuring, they still want to call it Motor. I’m stuck in a box. I advised her that the “performance area” was Transition/Adaptive. (01/21/11 Simmons Weekly Reflection)

This classification is correlated to limited knowledge of occupational therapy services and potential by other professionals. A comment made during a team meeting summarized this notion.

We have a new Assistant Special Education Director. Very frustrating to see how under valued OT/PT are. We are some of the most highly educated and specialized members on IEP teams, but our input is rarely sought out. This is true because we have put ourselves only in the motor box. I need to present to our Leadership Team and the district primary evaluators (speech and psych) about our full potential/scope of practice. (02/11/11 Simmons Weekly Reflection)

***Questioning of other professionals' responsibilities.*** Boundaries and understanding of other professionals' roles and responsibilities was reported as a hindrance to the delivery of transition-related services. Occupational therapists indicated uncertainty in responsibilities of professionals, such as transition coordinators and guidance counselors. One participant indicated that it should be the responsibility of the transition coordinator or guidance counselor to match student abilities to job requirements. They stated:

They don't have the next job thing and that is a huge job to me that is when the transition coordinator comes in. But that is a huge job to say if this person is interested for instance I had a student with autism and I wouldn't even call it high functioning autism. He is really good with geometry and math and computers but as far as writing and reading. And he wants to go into media production and he doesn't have the language skills. Okay so I have to set there with the mom and talk about all the skills he doesn't have. So how do I find the careers that are

highly correlated to media production? I don't know anything about that profession. To me that is what the transition coordinator should really know or a guidance counselor or someone should know, these are all the other things in this field why don't we focus on this area right now, like editing or whatever.

(10/01/10 PUSD Team Meeting Transcript)

Managerial concerns for reimbursement and skilled service boundaries were also addressed. A lead occupational therapist questioned if the broad scope of transition services were required to be administered by a highly qualified and highly paid occupational therapists, or if another profession or less qualified professional could focus on transition service provision. The occupational therapist discussed concerns specific service areas by stating:

Here's the other thing that influences my thinking, we have 23 OTs and COTAs in our district and over half of them are contract staff, and our district pays \$68/hour for our contract staff, so I ask myself, as the lead OT, now I'm not asking anybody else to reflect on that, is that a \$68/hour service? No it's not, it's not a skilled OT service. Could OT do it? Yes, but I don't think it requires the skill of just an OT to deliver that intervention, and that is one of the questions when you're working in public schools and the responsibility of the local education agency is, can someone else deliver that service adequately, without your training in education? (12/10/10 PUSD Team Meeting Transcript)

Lack of clear understanding of the roles of the transition coordinator, guidance counselor, along with other professionals including the occupational therapist hindered the ability to state service area goals without repeating or withholding services. A therapist expressed

her concern by saying, “There is the question of where do I end and others begin though. What is too much? When do I cross the line? It seems OT is one of those professions that has its hand in everybody’s business. A jack of all trades, master of none” (11/26/10 Simmons Weekly Reflection).

***Defend and advocate for Occupational Therapists’ role to work in transition.***

Without a clear definition of occupational therapists’ role in transition services within the high school setting, it became difficult for the therapists to defend their position and right to provide services to other professionals. A therapist stated:

What is missing or what can we offer as our, you know, clearly define what our role is for this age group within school practice and for ourselves, just so that we can revisit that our mind so that we know where we stand. And sometimes we’re going to go back and forth. Sometimes we’re not going to do enough, or we might not ask the right people. (11/01/11 PUSD Team Meeting Transcript)

Therapists advocated for occupational therapy in regards to secondary transition and for the students’ needs in various performance areas. A therapist stated her concern with the lack of proven success stories of students’ successful secondary transition as a result of occupational therapy services related to transition. She stated,

It seems that I am trying to represent the efficacy of Occupational Therapy’s role in transition I am being faced with systems that are already in place (whether effective or not). As the time goes on I hope that we will develop systems that we have tried and that we can prove that work. (10/08/10 Jones Weekly Reflection)

Another therapist talked about her experiences working with other professionals by saying, “For the high incidence students, like those with learning disabilities, it has been

a little more tricky. We certainly haven't been met with resistance, but rather with confusion about why we would be interested or qualified to be involved" (N/D Johnson Startup Reflection).

***Acceptable performance areas.*** Performance areas that were addressed in therapy were discussed. An overall theme involved therapists' discussion of functional participation in class and activities that lead to community participation. The therapists indicated a change in their perceptions of their role from a more narrow scope of practice to a role encompassing holistic views of the students. They indicated hesitancy, however. The following statement is a summary of a discussion between a psychologist and an occupational therapist regarding the role of occupational therapists in transition.

I think it is very interesting the difference in perspectives when I hear Tom talk about the OT real it is always sort of meteoric and when I ask the OT's what they think they might be strong at I heard living skills and vocational. You know I really do respect all the different views but those are really different perspectives on how OT's work in transition and I would have to say always going towards the meteoric piece is really what I think of as an older more traditional perspective on OT's role in transition rather than that idea of I mean OT's are so skilled at return to work with adults and so skilled with living skills with any people who have any kind of incidents in their life. (10/28/10 PUSD Team Meeting Transcript)

***Sense of confusion.*** A lack of a definitive role for occupational therapy in transition at the high school limited the therapists' ability to step into the duties needed. A sense of confusion was produced by the lack of a clear purpose and definition, as expressed by one therapist in saying, "I am really experiencing some confusion right

now. Who am I, what do I know, what can I do, what should I do?" (04/15/11 Simmons Weekly Reflection). This hindered their ability to advocate and explain their role to other professionals, as well. Therapists described confusion on the services that should be provided by occupational therapy compared to other professions due to lack of boundaries in occupational therapists' role and other professions.

**Limited collaboration.** Collaboration was a significant topic throughout the data. Collaboration occurred with various professionals, students, and families. Some professionals included regular education and special education teachers, resource teachers, behavior specialists, transition coordinators, psychologists, vocation rehabilitation specialists, physical therapists, speech therapists, along with other occupational therapists. Collaboration was often during team meetings for specific students, such as IEP meetings, exchange in between classes, at in-services, supervisory meetings, or at the request of another professional.

***Reluctance to collaborate from teachers and school professionals.*** Collaboration with teachers and other professionals proved difficult. Teachers' availability for collaboration was limited. A therapist said, "It is hard to build connections and rapport with the teachers, they are not as warm and fuzzy so to speak, they are not as available. They are very isolated, and they are not used to working together as a team" (10/01/10 PUSD Team Meeting Transcript). Therapists also struggled in working with teachers' habits and classroom routines. Some teachers were reluctant in accepting student accommodations to support inclusion in the classroom. For example, a specific teacher was entirely reluctant to collaborate with the team and allow her student the opportunity

to participate in adapted P.E. class. Another therapist expressed her frustrations in working with rigid teachers.

Working with teachers is such a struggle! And I must admit I have low tolerance for people who don't use common sense or don't want to try new things on behalf of a student because it is not what everyone in the classroom does or because it's not how she runs her class. (10/15/10 Simmons Weekly Reflection)

In addition, a therapist expressed frustrations with transition coordinators by saying, "So my frustration with our transition coordinator is she is so literal and so obsessed about boxes and everything be written perfect so she is missing the idea and intent and in my opinion the whole purpose of transition" (10/01/10 PUSD Team Meeting Transcript).

The lack of collaboration limited students' opportunities to access needed resources through the resource teachers due to scheduling conflicts. Effective communication could resolve issues to benefit students.

***Limited collaboration impacted continuity of care between academic years.***

Along the same lines, continuity of care between each academic year proved to hinder goals, education, and student success. Teachers rarely use previously collected data or successful accommodations from year to year.

Each year, the goals are generated by the current teacher, with little or no regard for the previous teachers data. The instructional tools are rarely consistent; teachers use whatever materials they can locate online or at the local bookstore and assessment of progress is infrequent or is only based on teacher created assessments. For a group of students with cognitive impairments, it would seem essential to utilize a consistent intervention for reading over a long period of time.

But at the change of each year, the resources utilized by the teacher to instruct may be as different as phonics vs. whole language for reading, touch point vs. manipulatives for math, or Spalding vs. Handwriting Without Tears for instruction in letter formation. (10/15/10 Simmons Weekly Reflection)

***Limited transition-related knowledge by other professionals limited***

***collaboration opportunities.*** Professionals of various disciplines lacked knowledge on how occupational therapy could be utilized in the high school setting. School professionals were often critical and some expressed limited openness to collaborate.

I really did not spend much time with him this year, but mostly because we had a behavior specialist on staff at the beginning of the year that was not at all about collaborating regarding behavior and social skills. She really didn't see OT in that role and wouldn't hear any discussion about the potential benefits of us working together. (05/06/11 Simmons Weekly Reflection).

***Team members requested conclusive answers regarding student abilities.***

Several therapists indicated the pressures and resistance from teams. Specific pressures involved teams requesting conclusive answers if the students had abilities in order to pursue certain jobs. Teams also turned to the occupational therapist to remediate students' deficits. "So my frustration with our transition coordinator is she is so literal and so obsessed about boxes and everything be written perfect so she is missing the idea and intent and in my opinion the whole purpose of transition" (10/01/10 PUSD Team Meeting Transcript). In addition, a therapist described her perception of the team's view of her role and their requests. She stated:



I am just saying how people see us right now. They are not seeing us as problem solvers. They are not seeing us as how we can get the students to where they are at or how they can function better, at the high school level anyways. You know what I have been asked to do so far in transition is tell me that the kid can't do this. I mean this is what they are looking for me to do. (10/28/10 PUSD Team Meeting Transcript)

*IEP teams tended to have negative attitudes regarding student abilities.* The data indicated that teams tended to use a negative approach in looking for and ruling out applicable jobs pursuits. Along with negative views towards student abilities, teams often used traditional approaches for accommodations and were resistant to accepting occupation therapy recommendations. Another example showed that teams often request therapy evaluation and services for assistive technology, but when the occupational therapists offered additional suggestions related to transition, the team was resistant to discussion for these services. Lastly, a therapist reported an instance where the team persuaded the student to move away from his desired class, a functional life skills class, to a less useful class, ceramics while creating his class schedule.

He originally had said that he would do life facts and something else. And I'm thinking life fact? That's going to be great. He's going to do all kinds of home-ecy kinds of stuff, different cooking, and sewing, and that kind of stuff. And I'm thinking, shoot, this is a kid that's going to be out in the middle of the forest, guiding these people around and someone's going into tear their bag, and he's going to need to be the one that'll sew it up. I was like yeah! He can learn all how to sew, all of this kind of business. And they talked him out of it! they talked him

out of picking that, to picking something easier, like ceramics. Ceramics?! What?!  
(02/15/11 PUSD Team Meeting Transcript)

**Student interests and barriers.** Students presented individual interests and barriers during transition planning and intervention. Some participants expressed struggling with exploring student interests. Other therapists stated struggling with intervention activities due to students' denial of their disability, lack of interest in school or therapy, and inaccurate assumptions of life expectations following school completion. Lastly, therapists expressed difficulty in the uniqueness of each student's case.

***Occupational exploration to find student interests.*** Therapists expressed the need for occupational exploration used to introduce the students to various options to spark interests. Therapists recognized that students had limited experience with diverse occupations and vocations. Occupational exploration was required so that students could gain a better understanding of their interests related to vast possibilities.

I think that may be something you want to look at and maybe that is some activities or occupations you could do with the kids in exploring some of those things. That is a huge area if you don't explore things they may never know it exist. Like me I didn't know OT existed until my late 20's. So that is something to start with. (10/01/10 PUSD Team Meeting Transcript).

***Therapists unsure how to expose students to various occupations.*** Despite the need for occupational exploration and therapists' educational background, the therapists expressed a lack of knowledge in the area of occupational exploration. Therapists struggled to create ways to specifically expose students to various occupations. A therapist said:

Is as a freshman even a sixteen year old I didn't know what I wanted to do, I had no idea. It was based on my limited knowledge of what there was out there. So I guess I am presenting a problem without a solution. For kids how do you expose them to such a wide variety of jobs that are actually available. I mean are there videos? (1001/10 PUSD Team Meeting Transcript)

***Therapists unsure how to match identified student interests to intervention plan.***

Therapists discussed difficulties in matching student interests to appropriate transition-related interventions. A therapist explained that she had difficulty in using student interests in developing a plan and transition activities that correlated with student interests. She stated:

I think we are doing a better job and we're beginning to do that by including them in that process, and just asking them questions, just asking them, just talking to them and asking what their interests are, and I agree with, I don't know if it was John or Mary, with the whole aspect of okay, now we know, now we have gathered all the information on assessment so far, and we've asked the student what they want to do, but how do we take it from there is always the biggest, I think should be a bigger focus because I think all the information again is somewhere. There's a couple things that we might, as a team, we're missing right now, but I think that the information can be gathered and organized a little bit better, but that second step is really the more important step, creating that plan with that student and that understanding of the long-range plan in general.

(01/11/11 PUSD Team Meeting Transcript)

***Student denial of disability impacts therapists' ideas for intervention.*** Students demonstrated personal barriers during transition planning. For example, some students had not fully accepted their disability, some students struggled with self-advocacy, and others had unrealistic post-school expectations, such as work or community involvement. A therapist expressed her difficulties in determining appropriate intervention activities due to students' denial of their disability.

A lot of them are on for support, you know, they'll ask me for accommodations, the technology needs, but a lot of the times my kids are in such denial that they are autistic, that they have special needs, that sitting down and just talking to them I think, they're not very realistic, the teachers are really focused on more of that academic only. So it's harder to do activities with them. I think that the kids that have behavior problems that are constantly having those pointed out to, those kids, I have at the high school, I think that they're just, like when they're done with school, they're done with school and they're just going to stay home and do nothing. So finding the strengths with them and sitting down and helping them find those positives would be a good thing because they're just so down on themselves, but they don't have those transition activities. (01/11/11 PUSD Team Meeting Transcript)

***Difficulty working with at-risk students due to drop out rates: emotionally disabled.*** Therapists also explained difficulties in working on transition activities with the emotionally disabled and the at-risk population because of their tendency to drop out of school earlier than most students. A therapist said:

I would also agree because working with the pediatric ED population. I am just really concerned because we have people in our emotionally disabled population that are like “I’m checking out at sixteen, I don’t have to go to school anymore”. So we need to kind of tap that inner drive “What do you want to do, and how can we help you, not enable you but how can we show you how to make good habit for yourself?” And I think in that population or even some of our kids with ADHD that are still resource they need to have some sort of focus with us assisting them but also not enabling them. (10/01/10 PUSD Team Meeting Transcript)

***Lack of student input in team meetings.*** Therapists recognized the need for student input, student advocacy, and utilization of a strength-based approach when working with the team and IEP documentation, as well as incorporation the student in the transition planning. But, there was limited student involvement or opportunities for self-advocacy for the students during transition planning.

***Student involvement.*** Therapists identified limited student involvement in IEP meetings and transition planning. This was recognized as an area of need, so they encouraged IEP teams to incorporate student involvement in the future which would aid in appropriate intervention and goals.

But the student engagement piece I think is a really big part that we can continue to encourage our team to do a better job in. Not saying that they’re doing a bad job, but we can incorporate some of those things that we’ve learned to self-teach like our background in MoHO and just different things like that. (01/11/11 PUSD Team Meeting Transcript)

*Opportunity for self-advocacy skills for student.* It was also identified that students have limited opportunities to build self-advocacy skills while in high school. Another therapist stated her observations for the need for students' self-advocacy by saying,

I need to look for more that involve the idea of self-advocacy, disability awareness, self-determination, learning style, etc. I have ordered quite a few from MOHO so I am hopeful that some of these tools will guide us to lead this charge. Almost 100% of data in IEP's is derived from teachers and parents other than Interest Inventories about careers (01/21/11 Simmons Weekly Reflection).

*Uniqueness of each case presents barriers to continuity of services.* An issue impacting intervention was the uniqueness associated with each case. This not only presented difficulty in interventions, but with consistency of services across the disciplines. A therapist expressed this concern by saying, "And it's unfortunate because there isn't that consistency of quality or expectations across the board for OT's or teachers or anyone for that matter, but I think it's just the subjective decision based on the needs of the student"(02/15/11 PUSD Team Meeting Transcript).

**Limited resources.** Resources include features outside of the therapists' control, such as school system funding, therapists' time allotment, having enough therapists to serve students effectively, lack of pertinent information, and community placements following high school. Limited resources were reported to hinder intervention for transition planning and skills.

***Education system limits support for therapists' continuing education***

***opportunities.*** Participants reported that the school system controlled and limited resources, staffing, and funds. A therapist indicated that because of limited support for continued education, she was unable to pursue current evidence supporting new therapy techniques and frames of reference. She said:

I work for a system that does not support my development as an OT. Schools do not pay my licensure fees or for membership dues to AOTA or continuing education. I have to pay for classes myself and while I have attended CEU courses over the years, they were mostly school-based practice in-services; which is really like "OT in a basket." (04/15/11 Simmons Weekly Reflection)

***Limited therapists staffed hindered ability to serve all students eligible for care.***

The system's staffing patterns were referenced as a reason why therapists were limited in the school setting, creating obstacles to efficiently serve all students. Secondary transition services were reported as very unique and time consuming, but the needed time was not an option. The therapists questioned how they could effectively represent their role in secondary transition if they did not have time to work with every student needing secondary transition services. A therapist stated that more therapists were needed in each high school to adequately serve the students. This idea was continued in a conference call:

I don't think it's something we could do with every student, you know, I would hope as part of the transition team, they might seek our input in a more difficult situation, as part of a, you know, we're just not making progress in this area, do you have some additional resources or ideas we can do in observation? But to say

we would perform that activity with every student, I mean there's just not enough of us. (01/11/11 PUSD Team Meeting Transcript)

***Time and scheduling constraints.*** Utilizing the therapists that were staffed, the participants felt significant pressure due to time constraints in providing services for their caseloads. "There is not enough time to be a personal advocate for every single student" (10/28/10 PUSD Team Meeting Transcript). Time was referenced as one of the most difficult aspects of transition planning. The therapist said:

The most difficult part of this process is figuring out the components and technical part of the project/ equipment. Another barrier is my ability to participate in training and setting activities over the expanse of consecutive days. Because I am at the high school only 1 time per 6 days and then you factor in weekends. This may mean that I can only visit the sight every 8 days. (02/11/11 Jones Weekly Reflection)

He continued to comment on the overall process of helping students in the high school because he only had time to visit the high school once per week which did not allow for efficient invention and follow up, nor does it allow him the opportunity to prove himself as a leader for the students' transition services. A therapist specifically related limited time as a hindrance to her intervention and activities associated with transition. She said:

I think there's a lot of things that I'd like to do, you know, go and observe students. I work with the Autistic population, and I know I would love to do job shadowing and those type of things, but I don't know what the legalities are with going with that student and when I would find time and the resources, the teachers



would be on board, but it's a matter of finding time. (01/11/11 PUSD Team Meeting Transcript)

***Limited community placement and integration opportunities and information.***

Lastly, information regarding training programs, employment, and community placement options following high school was limited. One therapist stated she explored various placement options, but was not successful in finding options to suit her students' needs. Another therapist commented on the need for information regarding training programs available to the high school students. He said:

There needs to be a resource that informs every jr high student, their teachers (especially resource teachers if the student is special ed), and their parents of all of the vocational training curriculums that exist at all of the high schools. This way parents could request variances to allow appropriate placement for students who will benefit from a program that their anticipated high school might not have. To my understanding this is not common knowledge. (10/29/10 Jones Weekly Reflection)

**Documentation.** Documentation of student information was described as a hindrance. There was often a lack of organization of student data including assessment results, previous years' performance and interventions, successful accommodations, and others. In addition, knowledge of secondary transition documentation was limited. Often times, transition planning and documentation was delayed for various reasons.

***Lack of organization of student information.*** Another hindrance described by participants included the lack of organization of data. Assessment and evaluation data were collected, but the information was rarely organized or presented to the team in a

functional, strength-based way. Assessments often ended up being repeated by another discipline. Participates questioned if it should be the occupational therapists' role to collect, organize, synthesize, and report data for specific students' and their functional performance areas to the team.

Another strength of OT is that we are kind of the global thinkers on the team so we can take in data and we can process it and not only be a contributor to the data but also may be that person like Mary is saying this kids IQ is such you know she is the only one that said that, that should not be the case. But um I think that is a really good role for us to fill but it is hard to define. I don't know how to put this into words being like a integrator of information to the team. If we can somehow be that person too not only understanding right now where we are all at and we are just learning about different assessments but the one thing that drives me crazy is when we are all doing duplicate work and we don't even realize we are doing. A lot of the times the information is there it is just not integrated and useful so you have different members of the team we may even be collecting the same data through a similar new assessment that we found but we may also have the LSD teacher doing the same thing. (10/28/10 PUSD Team Meeting Transcript)

And, as the therapists explored their different areas of practice, they continued to meet guidelines based on serving students within the school systems. Terminology and federal law compliance presented another challenge for participants in the area of documentation.. A lead occupational therapist stated:

I am trying to help OT's understand they can use their broad scope of practice and that they can look at all areas all performance areas you know work, play, leisure

our domain but you know what are those domains called in school. (10/28/10 PUSD Team Meeting Transcript.txt)

***Initiation of transition documentation for students.*** An area of concern for the participants involved the age of initiation of transition paperwork. Federal legislation mandates transition services begin when the student is 16-years-old. The school district in which data was collected in Arizona, required transition services begin at the age of 14-years-old. “I don’t feel like my team does a good job filling out the paperwork, I have not set at a single IEP meeting where I really felt like the teachers understood how to put down a coordinated set of activities” (10/28/10 PUSD Team Meeting Transcript). Hesitance towards transition paperwork and services by teachers was reported to present barriers for therapists to provide appropriate services. The overall system of legal requirements for documentation for the IEP, the high school system dynamics, and continuum of care throughout the academic levels were discussed as barriers. Documentation within the IEP and transition forms presented concerns for the participants.

**School system regulations inefficient for students with special needs.** Along with mandated documentation, the overarching high school system is based on scholastic credits, which is not conducive for students who may not continue educational pursuits following high school completion.

High school is a unique setting with the focus being so much on earning credits. Students can not easily miss classes to spend time with an OT – they are responsible for any missed work and many of our students struggle as it is without creating an additional barrier. (12/10/10 Simmons Weekly Reflection)

## **Other Interventions**

This section describes occupational therapy interventions that were used and discussed throughout the data excluding comments regarding interventions geared towards handwriting, assistive technology, accommodations, and equipment, as these areas were explained in other sections. Intervention approaches were described in terms of areas of occupation that the therapists addressed throughout the data. Ideation addressed the numerous intervention activities, approaches, or ideas that were discussed by the therapists throughout the year. Collaboration with teachers, teams, parents, students, and others was critical in determining and delivering appropriate interventions. Areas of need were considered as the therapists addressed improvement areas or barriers to effectively providing transition-related activities. Lastly, programs that addressed transition-related skills and planning were described as the therapists illustrated the need for occupational therapy involvement, as well as the potential for intervention. A therapist summed up this point in saying,

Thinking about all of it now, it really makes no sense that OT has not been a part of Transition from the beginning. It's really the just of OT if you think about it; helping people with disabilities find ways to do things they have to do or want to do. 'OT, for the Job of Living.' (03/11/11 Simmons Weekly Reflection)

**Intervention approaches.** The data reflected various intervention approaches used during therapy services at the high schools. Discussion of intervention throughout the data rarely explicitly stated which activities were used for transition preparation purposes. Intervention activities that were described included ergonomics, desk adaptation, board games, such as Password and Life, origami training, peer interaction,

positioning and handling techniques, leather tooling skills, fine motor labs, Geoboard activities, card games, use of individualized instructional picture books, low tech sensory options, and biofeedback training.

*Functional skills.* Additional interventions were discussed that were used to teach functional skills needed for post-school life. Websites were also used to improve self-awareness and self-advocacy as students researched to better understand their disability. Areas of community integration, activities of daily living, and vocational skills were discussed.

*Community integration.* Trips into the community improved grocery shopping skills and community integration. A therapist said:

At the high school, we went out into the community again (WalMart) and shopped for the supplies and materials necessary for pumpkin pudding. Kelly and I had previously taken pictures of all the necessary ingredients. I handed out 8” x 11” photos of the ingredients and with teacher assistance, our MD students scanned for the items, selected them and placed them into the carts. The student I worked with was actually able to look at the picture and find the canned pumpkin, independently, at the end-cap display. All of these practical daily living experiences will contribute to the transition process. (11/22/10 Barnes Weekly Reflection)

*Activities of daily living.* Other therapists created a kitchen area for their students filled with appropriate tools and needed adaptations. “The students were able to use tools like a rolling pin to crush graham crackers, a spoon to stir, and a switch to activate a mixer to make pumpkin pudding” (11/24/10 Johnson Weekly Reflection).

*Vocational skills.* Job skills were also a focus discussed throughout the data.

Both real job experiences and mock jobs were created. One therapist bought an electric saw to use with students in order to make and sell key chains. Another therapist used the goal for improved handwriting in functional tasks, such as writing a check or filling out a resume. Continuing with vocational skills, a therapist, “took a student yesterday for a new job and she is doing data entry and I just recorded she did eighty eight entries with five errors” (10/28/10 PUSD Team Meeting Transcript). Another therapist teamed with a teacher and speech therapist to create significant job experiences for several students. They aided the students in creating a small store at the school. The students were responsible for all aspects of the store including stocking items, advertising, selling items, money exchange, and more. The opportunity also allowed for improved interviewing skills, responsibility, self-determination, and social communication.

**Idea formation and future plans.** Throughout the course of the year, therapists identified numerous intervention activity ideas geared towards transition that they thought of and would like to begin using. Therapists discussed attending IEP meetings to provide suggestions related to accommodations, interventions, and transition planning. Using occupational exploration to better understand students’ interests was also discussed.

***IEP meeting attendance and intervention ideas.*** Therapists indicated that they attended additional IEP meetings to encourage occupational therapy support in students’ transition. “I added myself as a supplementary aid to the 15 year old freshman’s IEP to consult on a home exercise program and so that I could support her during her transition back to her home school” (12/06/10 Jones Weekly Reflection). By attending IEP meetings, the therapists reported the ability to offer feedback to the team and advocate for

student needs. Therapists saw that the IEP team respected their opinions and sought their ideas for various interventions. “Many of the members on this team are seeing OT as an asset and seeking my input relative to a variety of considerations: AT; Behavior Monitoring; Sensory Strategies; Educational or Instructional strategies; organization and work completion” (12/17/10 Simmons Weekly Reflection). As the team sought input for intervention ideas from the therapists, they reflected on their idea of their role, as well.

I’m thinking that when we meet, we can bring some of the gaps in his knowledge of adaptive skills to the parent’s attention, so they can start to be mindful of it at home. I’m betting that the reason he doesn’t know how to put out a grease fire is just because it’s never come up. He certainly doesn’t need an alternative or modified curriculum at school to address some of these areas, but he does need the parents to be more aware of what he not just picking up from experience or observation. (11/01/14/ Johnson Weekly Reflection)

***Occupational exploration.*** Exploring occupations, jobs, and offering experiences were directly stated as an area that occupational therapists could work in. A therapist said:

I think that may be something you want to look at and maybe that is some activities or occupations you could do with the kids is exploring some of those things. That is a huge area if you don’t explore things they may never know it exist. (10/01/10 PUSD Team Meeting Transcript)

In addition to team meetings, community resources, and occupational exploration, therapists discussed ideas about collaboration, areas that can be developed to enhance intervention, and specific ideas, such as an ‘intervention menu’ that could be created to

aid in intervention activities. Because of a lack of activities ideas, one therapist stated she “will be working this summer to explore intervention strategies for each of the areas we assess, including study skills, social skills, behavior and communication” (04/29/11 Simmons Weekly Reflection). Ideation for various transition activities was evident throughout the data.

**Therapists collaborated with IEP teams, school professionals, community resources, parents, and students.** Collaboration occurred with IEP teams, school professionals, community resources, parents, and students. Specifically related to transition intervention, the therapists indicated collaboration with the team to promote transition-related activities, training teachers in appropriate activities, and utilization of the students’ strengths while generating ideas and transition activities.

*Collaboration with school departments for student inclusion.* Therapists used school resources to build student strengths. They sought collaboration between different departments for inclusion-based practices. During a conference call, a therapist mentioned her collaboration efforts by stating:

I am trying to formulate with the art department there because we have a couple of kids there that are in the MP program or in the MIMO program that would be great to go to art with the regular ed team and it has never occurred to anybody.  
(09/03/10 PUSD Team Meeting Transcript)

In addition, therapists collaborated to use school resources for transition-based activities, specifically related to job skills. A therapist said that she:

Just found out today that one of the MD teachers, after discussion with Kelly and I, put in a request to purchase two shredders to use with her MD kiddos. My



dream is to incorporate the higher level MI students or TAs to assist with the process so peer modeling could occur. (10/13/10 Barnes Weekly Reflection)

***Collaboration and curriculum development for special education classes.*** It was evident that the therapists were open to collaboration in order to benefit numerous students' transition activities. The therapists identified a need and great opportunity to provide intervention activities through collaboration with teachers of pre-established transition classes. Therapists collaborated with special education teachers to assist in developing curriculums which supported secondary transition-related skills.

***Collaboration with primary providers to enhance overall services for students.***

Collaboration with teachers and student aides was essential to ensure carryover of intervention activities and goal attainment for the students. The therapists helped the teachers in better understand IEP's and goal writing. A therapist wrote:

This last quarter of the school year, Ann I have not written any 'OT goals' on IEP's. We collaborate with the primary service providers about goal development and then we include benchmarks that are OT specific. For instance, if the student's goal is to write an age appropriate sentence, a benchmark might be: demonstrate an effective grasp; or translate 5 pennies in and out of palm; or maintain prone extension; or something else which would serve as a precursor to the student meeting the goal. This has been extremely successful and for our IEP's where a teacher is the primary service provider, we are noticing less 'passing of the IEP.' The teacher reads the present level from start to finish. This is hard for some old-school teachers but the "newbies" are catching on right away. (04/01/11 Simmons Weekly Reflection)

***Parent involvement for IEP meetings and goals.*** The therapists utilized their collaboration efforts with the teachers to build on the students' strengths. In addition, the therapists designed activities which were based on parent involvement. This type of collaboration was directly stated to aid the teachers in writing IEP's. A therapist stated this point by saying:

I have discussed possible work experience and life skills activities that can be utilized within the lower functioning Autism program for next year. Many of these activities focus on home management tasks. The teachers and I have begun having the parents assist with filling out checklists regarding the students' strengths and weaknesses to help guide "groups." This information has also been useful in guiding the teachers in writing their IEPs. (04/11/11 PUSD Team Meeting Transcript)

***Interdisciplinary rehabilitation collaboration to provide appropriate recommendations and accommodations.*** Therapists collaborated with other related service professionals in order to make appropriate recommendations for activities and modification for students. A therapist described her experience in collaboration to make recommendations by stating:

As a result of the observation, the PT and I will generate a list of recommendations to maintain her safety in the kitchen, including her not being permitted to place objects into or take objects out of the oven (when other students are present) or cook on the stove. As well, she shouldn't be permitted to use a sharp knife to cut or dice foods. Adaptive tools that the student could use at

home will be brought to her attention, but there isn't time to acquire these materials for the 6 weeks left in the class. (10/29/10 Simmons Weekly Reflection)

**Areas needing improvement to provide best school-based occupational therapy practice in transition.** Numerous topics were discussed as areas of need in order to provide appropriate transition-related intervention activities. Areas included improved goal writing, increased service time, utilization of a hands-on approach, improved documentation, increased partnerships, use of a holistic focus, and use of a strength-based lens. Therapists expressed their perception of improved secondary transition services with improvements in these areas.

**Goal writing.** Improved collaboration with teachers and teams in goal writing was indicated as a main objective so that appropriate carryover of intervention would be seen throughout the school day.

There is always the student that will benefit from week time/support/interventions, but the focus should be clear and purposeful. When we begin to collaborate with primary providers for writing goals, we are going to see more carryover for students with interventions that are meaningful. (04/29/11 Simmons Weekly Reflection)

**Limited service time.** Limited service time to practice specific skills was stated as a barrier to effective intervention. Therapists were limited in training school professionals and students, direct intervention, and collaboration due to limited time. One visit per week was not perceived as effective occupational therapy service time.

***Hands-on approach.*** Utilization of a hands-on approach by all school professionals and teachers was also discussed as an area needing improvement. Currently, teachers are not fully using a hands-on approach to foster secondary transition skill development. This is perceived as a barrier to skill acquisition for this population. A therapist discussed her experience in observing a transition class that was focused on worksheets and scheduling.

On my last observation of the class, the students were asked to go through a list of about 100 career options and circle 10 that they were interested in. The next thing that they were asked to do was circle 6 traits that described their work ethics. Many of the students randomly selected careers (1 ranging from artist/illustrator to window washer). I suggested they discuss in small groups some of their career choices and discuss what job duties those entailed to see if they really knew. The teacher was more interested in getting through the lesson and being “on-schedule” with the curriculum than what the students were really getting out of the class. In conversation with the speech therapist, we discussed getting together and brainstorming ideas to assist with “managing” the class. Transition class should not be about completing packets. The students aren’t getting anything out of that. It’s scary that many of these students are sophomores and have no idea what to expect in the outside world. (03/09/11 Barnes Weekly Reflection)

***Improved documentation skills and understanding IDEA.*** Therapists also stated a need for improvement in understanding IDEA, documentation skills, and better planning. Therapists were able to provide intervention activities but were unsure of how to accurately document services. Documentation and understanding of IDEA will also

foster continuity of care between each academic year. Students will receive more individualized and accurate services by all school professionals.

***Partnerships.*** Partnerships with the school system, school departments, and community resources were indicated as a need to further enhance transition intervention. Students' skill acquisition will flourish with greater opportunities to engage in occupations provided through partnerships with existing departments.

***Holistic focus of student.*** As the therapists began to prove their role in transition, they also identified a need to focus on the whole student. It was said that:

The skills of leisure, play, education, IADL's and ADL's are all relevant to a child's everyday occupational performance as a student. If we start looking at the whole child and how we can either work directly with the student or on behalf of the student with the educators in a larger context other than handwriting, we will begin to truly fulfill our role as OT's. (N/D Simmons Startup Reflection)

Student needs and strengths were said to be top priority for the therapists.

Therapists explained that students should be included in IEP meetings, and transition planning should start earlier. Students' classes often were predetermined based on scheduling conveniences, despite student interests or needs.

***Strength-based approach.*** Lastly, the therapists recognized their own areas of need in using strength-based assessments, creating appropriate activity ideas, developing job activity modifications, enhanced knowledge of evidence-based intervention activities, and overall improved confidence in their abilities to address transition planning through intervention. A therapist illustrated this point in a conference call by saying:

We haven't really seen a good model of that where we can go 'oh, okay!' You know we haven't seen a really good model. I haven't met a single person that seems extremely confident- yeah it's like an experiment for them. They don't know what they're supposed to say or what they can't say or what are we going to transition to, or how to we cooperate with the parents. (04/14/11 PUSD Team Meeting Transcript)

**Utilization of established programs.** The therapists discussed programs and classes used in their school system that have been designed to prepare students for transition out of high school. Established programs used by Peoria Unified School District included 'My Life' and the Arizona Career Information System. The program, 'My Life,' began in kindergarten and was designed to help students with disabilities connect academic goals to post-secondary outcomes. In addition to My Life,

There is something called the Arizona Career Information System (AZCIS) it is exactly for that purpose and that is to expose individuals to by the way they interact with this portfolio process and it can change and go all over the place to different ideas and thought process about what they want to do when that graduate.(10/01/10 PUSD Team Meeting Transcript)

**Classes.** Along with district programs, specific classes were designed to address transition-related skills for this student population. The high school LSC leadership class "is a class for students with high incidence disability where they are suppose to spend time getting themselves organized for the day, learning about how to manage high school, learning about their disabilities and some basic self-advocacy skills" (10/08/10

Simmons Weekly Reflection). The schools also offered transition classes that therapists discussed as an opportunity to get involved in curriculum development.

*School departments.* Departments within the school system, such as the Career and Technical Education Department, Adult Training Center, and the vocation rehabilitation department, were established as offering transition-related services. These departments also provide opportunities for occupational therapy intervention.

*Career and technical education.* The Career and Technical Education department offered courses and programs to gain specific work place and career skills for high school students. It was said that students often got placed in these programs despite skills and interests. Occupational therapists recognized an area of need to create a partnership which focused on student interests and skills while using occupational therapy to ensure the students' skill development in the appropriate areas.

*Adult training center.* The Adult Training Center offered various skill building activities for students with special needs. The program offered community-based integration activities for the students. A therapist reflected on his experience in the community with this group.

I attended a CBI with one of the teachers from the ATC and 5 students. This was a terrific experience being with them in a non school environment. It was very easy to see which students may have the aptitude for working in different settings. The first facility was a hair salon and involved cleaning. The second was a restaurant that involved cleaning inside the dining hall, folding napkins in the kitchen, sweeping outside on the patio/ inside the dining, and rolling napkins. One

of the students is autistic and very attentive to details and was the ‘master roller’ of the napkins. (02/25/11 Jones Weekly Reflection)

*Vocation rehabilitation.* Vocation rehabilitation also offered job-related services for certain students. The therapists recognized the high quality services provided by the vocation rehabilitation program. But, limitations in qualification standards for lower incidence students hindered the full spectrum of students to receive services offered. Partnership with this program could influence the efficiency of service provision for students with various disabilities.

*Community resources.* Therapists also explored community resource programs to aid students with disabilities in gaining work place skills. A local grocer began a program designed for individuals involved with vocation rehabilitation. A therapist explained this program:

I also learned more about the role of job trainers, and how those positions are really suited for OTs. Safeway Grocery Stores has an entire training center dedicated to special needs students (resource and mild cognitive impairments), where they can learn customer services skills, other soft skills, and job training skills as a customer service rep/bagger. They open the program to all grocery stores in the state and receive funding through voc. rehab. Again – how beneficial would an OT versus a human resources person be at the helm of a project like this? (09/27/10 Barnes Weekly Reflection)

Throughout the year, another therapist made contact with the lead employee at the grocer. They discussed potential partnerships between the store and the school system.



Fred shared that they are beginning a partnership with Safeway to train the types of high school students that we have at the ATC. In a few days Fred will be meeting with the Safeway organization to firm up plans for Safeway to build a small mock storefront for training within the Gompers Vocational Training Center. Fred expressed Safeway and Gompers desire to partner with a few school districts who will be willing to bring kids to this storefront training as a CBI type activity. (03/04/11 Jones Weekly Reflection)

Options available through school system departments, established classes, and community resources offered opportunities for occupational therapy intervention activities related to transition.

### **Population and Cases**

Therapists described aspects of the students they worked with, individual cases, areas of need within the population they served, student placement and interests, and commonly seen diagnosis. Therapists' rapport with students and team members also influenced their working relationships. This section described aspects associated with the population served while providing occupational therapy services related to transition.

**Areas of need.** Specific areas of need were addressed when therapists explained the students they worked with. Identification of students needing secondary transition services, student involvement, and transition education were discussed as areas of need within various cases and for this population.

***Identification of students needing occupational therapy.*** Students were often identified as having a need for occupational therapy services because of poor fine motor skills, hand writing, or assistive technology. Often times, these referrals came from

teachers or other school professionals. With a broader perspective of occupational therapy services, therapists realized the need for thorough evaluations and proper identification of students needing occupational therapy services.

***Need for student involvement.*** Therapists reflected the lack of student involvement in the planning process for the services that are provided. A therapist commented on this and referred to it as a primary focus area for her student.

What I am going to do now for him is actually looking at some of the resources and getting him a little more involved because I think a lot of what is happening with this particular student things are still being done for him as far as assessments they are still being done to him he is not really involved in it. I think he has the capability to be involved in it. (10/01/10 PUSD Team Meeting Transcript)

***Transition education for team.*** Therapists identified a need for transition-related education for school professionals to best serve the students' abilities and needs. The IEP meetings allowed the therapist to begin educating the team regarding transition planning. In addition, instructional aides were identified as needing training in appropriate assistance in order for the students to be independent as possible. In service trainings were discussed as a solution by the therapists.

***Student placement.*** Students with special needs were placed in various programs to best meet their needs. Therapists provided information to assist in determining appropriate student placement. Convenient scheduling, and program qualification specifications were also influential in determining student placement.

***Therapist involvement.*** Therapists utilized observation and adaptation skills to advocate for and serve students based on their placement within the school system. A therapist advocated for a change of a student's classroom placement due to teacher induced anxiety.

This is a middle school student who is having a lot of behavioral challenges in the classroom, especially with relating to his peers. The kid was getting kicked out of his classroom more often than he was in there, a problem that was exacerbated by his teacher who was a VERY bad fit for him. Everybody had him pegged as an Asperger's type kid and figured the problem was primarily communication and sensory. Before the meeting or completing any testing with the kid, I went and observed him at least 3 times in the classroom and never saw any atypical behaviors that seemed to be related to sensory processing problems. It looked enough like teacher-induced anxiety that I spoke to the administrator more than once about things that I thought were highly inappropriate reactions on the part of the teacher. (03/04/11 Johnson Weekly Reflection)

Another therapist described an opportunity to work on job skills with a student placed at the adult transition center by saying, "I became involved in an 18 year old student's case because of his inability to use a broom at work. The student attends the Adult Transition Center and is involved in vocational training and job volunteering" (10/22/10 Jones Weekly Reflection).

***Convenient course scheduling determines class placement.*** Therapists described how students' course placement was often dependent on scheduling conveniences and team opinions. A therapist said in a conference call that, "like what John was talking

about, where scheduling is ironically kind of overrides everything else” (04/14/11 PUSD Team Meeting Transcript). Another therapist described student detrimental course placement for a student due to opinions of the team overruling the student’s wants.

And what had happened with this student was that he had been in a special ed English class and was doing quite well and felt like they could integrate him into regular old junior English with accommodations. And so when they start to plan that, they looked at the electives he was choosing, and originally he had chosen Life Facts, which we were thrilled about because he wants to work for the Forest Service system, wild land something or other, so we were thinking that would be a great class for him to take because he would learn all this real practical kind of stuff. And as they sat down to start talking about his schedule, the deciding factor for what his electives would be was related to him having an increased work load in English, so they wanted him to take an easier elective, so he ended up taking ceramics. (04/14/11 PUSD Team Meeting Transcript)

***Qualification specifications determine program placement.*** Students’ abilities and level of function were used to determine program placement for special education and transition-related services.

*Special education.* A therapist recognized needs for a student in preschool, but the student was not able to receive services due to qualification specifications.

She does not receive direct intervention but has a long standing history of sensory concerns and social delays. I have known this student since she was 3 years old in preschool. Interestingly, she did not “qualify” for special education until 6th grade because despite her diagnosis, she did not demonstrate significant

impairment in her ability to participate and progress in the general curriculum.

(12/10/10 Simmons Weekly Reflection)

*Vocation rehabilitation.* Students received services through the vocation rehabilitation program depending on their level of function. Strict qualification standards applied that were based on the students' performance abilities. Therapists identified that students who did not qualify for this program did not receive comparable services.

*Specific job skills programs.* Another therapist discussed a student interested in becoming an auto mechanic. The mechanic program required certain coursework which presented barriers for their student. The therapist identified aiding the student to utilize and enhance abilities in order to qualify for this program.

This particular student has expressed interest in the auto mechanic program offered in the district. Typically, students can't enroll in the program until their junior year and they have to finish and pass certain coursework during their freshman and sophomore years. So, if we can get him comfortable with using technology to support his performance in the general education classroom with passing grades, then we get to directly impact his ability to get into the program that he is interested in. (12/10/10 Johnson Weekly Reflection)

*College.* Lastly, college attendance was recognized as an area that determined class placement and skill development. A therapist stated their opinion that students who are not college bound should receive job skills services while in high school.

I would love to be involved in something that would allow kids who are not going to be college bound or may be but need to work while they're going to college, to actually gain skills and abilities that they can step right into a job right out of high

school. Because we've designed the schools after the industrial age when public education really took off. (12/10/10 PUSD Team Meeting Transcript)

**Therapists' rapport.** Therapists' reputation and relationships between teachers, team members, parents, students, and other school professionals impacted the caseload and students' resources. Positive relationships often increased the therapists' caseloads and students identified as needing services. Parental interactions and team rapport were also discussed as beneficial for the therapists, as well as the students.

**Increase caseload.** Therapists discussed how they gained clientele through relationships with teachers, parents, and school professionals because more students were identified as needing services.

We got an email from a resource teacher there where we have one student there that used to be hers but we don't have that student anymore and she remembered that we were helpful last year for that student and so there is another student and had emailed us and wanted to know if there was any way we could come by to help because what she is doing is not working. (09/03/10 PUSD Team Meeting Transcript)

**Parent interaction.** Therapists' ability to establish rapport with parents allowed opportunities for explanation of students' disorders and training for parents to best interact with their children. Parental understanding of their children also allowed for a strength-based approach to be utilized. Therapists encouraged parents to engage in transition-related skills and exploration to better understand their students' interests, as well.

***Rapport with team and professionals to support student resources.*** Therapists utilized their knowledge and observation skills to best report their assumptions of student strengths and needs to the team. A therapist described her continued involvement in team meetings even though the student was no longer on her caseload. The team respected her opinion and allowed her to maintain involvement.

On Thursday 1/20 I attended a RED meeting for an 8th grade student I have known since preschool. She will be transitioning to High School next year. She has a history of sensori-motor deficits and visual-motor delays. She received direct service for a number of years, but in the 7th grade, she finally transitioned into a self-contained classroom for full time special education and direct OT was discontinued. But I have always attended any meetings and remained active in her classroom. (01/21/11 Simmons Weekly Reflection)

A therapist explained his ability to influence a teacher's opinion of the student because of the rapport established between them.

You know I had a conversation with the teacher about the student when I did a review because I wanted to see where he was at and what was his potential and if I needed to give any standardized test. And that is what I realized and I went back to the teacher and said hey this kid has an IQ of a 112 there is no reason he cannot take regular ed science, why in the world are you putting him in the special ed science class. Then that teacher was able and at that point in that conversation, he was more receptive (10/28/10 PUSD Team Meeting Transcript)

**Student interests and insight.** Student occupational and vocational interests were explored by therapists. In addition, students' insights into their own abilities became evident to the therapists as they worked with the students.

***Vocational interests.*** Therapists discussed working with students who had vocational interest areas, along with students who were not decided on potential future plans. Vocational interests included graphic designer, barber, auto mechanic, and cake decorator. Therapists utilized knowledge of activity analysis to pair student abilities with potential career options. Therapists demonstrated their ability to analyze student skills and match those skills with appropriate vocational opportunities.

I attended an IEP and commented specifically on a 16 year old multiply disabled student's capabilities and strengths. My specific focus was on activities that he has done well and his success. He has an OCD component and effectively lines up material and overlays for an embroidery machine then runs the machine with the touch of a button. His obsessive quality actually serves as a strength for an activity that requires precise placement of objects. (01/14/11 Jones Weekly Reflection)

Another therapist identified problem areas for a student who needed adaptation to work tools, such as broom handle. In making adaptations, the therapist realized hygiene deficits, which could potentially further hinder the student's ability to find and maintain post-school employment.

***Students' insight to abilities.*** In addition, some students demonstrated insight to their own abilities. Other students needed the support from the therapist and team for realization of their abilities. Changed interests and vocational paths were seen and



initiated by the students as they student recognized their own abilities and compared them to vocational skill requirements.

*Some students demonstrated limited insight to their future needs.* Therapists described students who did not have realistic post-secondary expectations. Their misunderstanding presented a barrier in motivation and limited transition-related skill development. A Therapist explained a difficult student who has limited assumptions to his post-school life and expectations.

RB is very perplexing and everything has been tried with everyone to make him successful. He continues to struggle academically, has never had good focus or attention, and doesn't like trying to problem solve or figure out anything. Yet, he has definite areas of strength. In a conversation I had with him a week ago, I asked him why he wasn't completing his work. He indicated he didn't like to do it and he doesn't want to ask for help because all the work "is stupid." I asked him if he planned to move out on his own or if he was going to live with his mom his whole life, to which he responded he was going to live out on his own. I asked him how he was going to earn a living, to which he replied he wasn't – he would just borrow money from his mom or grandma! I mentioned they might run out of money one day and he would have to work. He said he would be a "financial guy." (11/04/11 Barnes Weekly Reflection)

*Students' insight to abilities apparent after therapist involvement.* Therapists took an active role in working with students to encourage them to better understand their abilities and future implications due their increased or decreased abilities in certain areas.

A therapist described her experience in helping a student better understand his abilities, which further impacted his selected classes, include the Life Facts class.

I used the Ansell Casey Assessment with one of my 8th graders as part of a transition activity. This particular student was very conscious about the way he rated himself. It was interesting to see since he was much more insightful into his disability and weaknesses than he lets on. He was interested to hear the outcomes and discussed how he needs a class that encompasses all aspects of independent living skills. I discussed with him a Life Facts class that deals with cooking, sewing, building a resume, completing job applications and career exploration. He seemed to like the idea and said he wouldn't have given that a second look if he hadn't gone through and seen his "weak" areas in percentages. (04/11/11 PUSD Team Meeting Transcript)

*Student changed vocational path due to improved insight of abilities following therapist involvement.* The two quotes below depict a therapists' drive to best meet the needs of her student. The student wanted to become a cake decorator following high school, but demonstrated ataxia which presented numerous safety hazards in the kitchen. The therapist was committed to adapting the kitchen to best serve the student's needs. Throughout six months of therapy services, the therapist empowered the student to recognize strengths and weakness in their abilities in the kitchen. The student's improved insight allowed her to make the decision that cake decorating may not be the best career path, but an enjoyable hobby.

A therapist described her student in a weekly reflection:

I met with the PT to observe the High School student with Ataxia in the Life Facts classroom. Concerns have been expressed by her 1:1 Instructional Assistant and the teacher about the student's ability to fully participate in the cooking part of the class. Additionally, her current post-secondary goal is to become a cake decorator or wedding planner. I really don't know how to assess the practicality of that goal, but I was hopeful that observations made during Life Facts class would give some insight to her strengths and weaknesses. Well, the students' deficits are pretty overt. She has moderate to severe global ataxia with poor gross and fine motor coordination. There are definitely a multitude of safety concerns in the kitchen classroom. At least the student has enough awareness that she was able to express fear about being accidentally bumped by another student and falling into the stove. As a result of the observation, the PT and I will generate a list of recommendations to maintain her safety in the kitchen, including her not being permitted to place objects into or take objects out of the oven (when other students are present) or cook on the stove. As well, she shouldn't be permitted to use a sharp knife to cut or dice foods. Adaptive tools that the student could use at home will be brought to her attention, but there isn't time to acquire these materials for the 6 weeks left in the class. (10/29/10 Simmons Weekly Reflection)

Conversation continued regarding this student's progression and insight in a conference call six months following the original weekly reflection reference.

I made her read the report before I brought it to the parents, I wanted her involved in that process. Now she's in the YT program and she's realized that cake

decorating is going to be a hobby that she'll do at home, that's good information. That's good, the team didn't know how to say, alright if you trip and fall into an oven, that could be bad. (04/14/11 PUSD Team Meeting Transcript)

This student had the insight and cognitive awareness to understand her disability related to functional skills associated with her desired vocation. She recognized that her abilities and the job requirements were not congruent, and self-identified the need to change her vocational option into a hobby.

**Diagnoses.** Therapists identified specific diagnoses that they work with. Students' ages ranged from preschool age to 22-years-old. Therapists worked with high and low functioning students. Diagnoses included: Autism Spectrum Disorders; emotional disabilities, such as depression, anxiety, bipolar, obsessive-compulsive disorder; cerebral palsy; Down Syndrome; Tourette's Syndrome; Turner's Syndrome; Attention Deficit Hyperactive Disorder; dyslexia; and Spinal Muscular Atrophy. Additional areas presenting disabilities for students include behavioral, communication, neurological, and sensory issues, communication, learning disabilities, ataxia, visual spatial skills, writing expression, cognitive impairments, low fine motor skills, executive functioning deficits, cerebellar ataxia, and low muscle control.

***Complicated cases require collaboration.*** Complicated cases or students with multiple disabilities were described as requiring collaboration in order to appropriately provide services. Therapists sought advice and intervention ideas from other school professionals and disciplines in order to provide the most appropriate services for students with multiple or severe disabilities.

*School caseload.* Therapists worked in various schools across the district. The high schools differed in the number of students on the occupational therapists' caseload, as well as differing in diagnoses. Some therapists worked in high schools without students identified as needing occupational therapy, other therapists worked at high schools with students having only mild or moderate disabilities, and other therapists worked at high schools with several students requiring occupational therapy services who had various disabilities and a large age range.

Therapists wanted to serve students on and off caseload. Therapists identified that they were inclined to serve students who presented needs regardless of if the student was on the therapists' caseload. This point was made in a conference call:

With our lower functioning autistic students we have been trying to put up some more programs over there more related to home management and things they have to do with daily living and establishing something to do monthly. And focus on and still managing to incorporate some of the higher functioning students who are not really part of my case load but how we can put them there and I think the biggest thing to get out of this is where I can help them. (09/03/10 PUSD Team Meeting Transcript)

### **Axial Codes**

Comparative data analysis continued as all open code memos were reviewed to establish axial codes which are the four central phenomena to this study. Further analysis of all data revealed common categories within each axial code. Central phenomena are supported through quotes and comparative analysis descriptions.

## **Building a Transition Repertoire**

Throughout this study, therapists developed their repertoire for secondary transition intervention and service delivery. An occupational therapy toolkit was identified to include services and aspects to transition that only the occupational therapists offered. Service delivery was explored. Lastly, the occupational therapists began to define their role in secondary transition planning and service provision.

**Occupational therapy transition toolkit.** As the therapists refined their skills and interventions used in high school for transition preparation, data revealed common tools or services used to best provide services. Along with areas mentioned below, interventions were described in areas of vocational skills, emotional wellbeing, communication skills, and life skills.

***Assistive technology.*** Assistive technology provided an opportunity for students to be referred to occupational therapy. Therapists clearly articulated their role in determining appropriate assistive technology, training students, and educating teachers to use the devices. Assistive technology was frequently used for classroom participation, but also was used for transition services. A therapist said it is important to “make sure everyone is able to access their computer, access the software, and start developing their own tool chest of ideas to help them succeed in high school, college, and into adulthood” (10/22/10 Barnes Weekly Reflection). It was stated that assistive technology can provide useful supports for the students to effectively and efficiently maintain employment.

***Occupational exploration.*** Therapists identified their abilities to provide opportunities for occupational exploration for the students. Student abilities and vocational requirements were compared and matched to provide successful engagement

in employment for these students. It was also indicated that exploration was important to expose students and provide student-centered services. A therapist said, “That is huge area if you don’t explore things, they may never know it exists. Like me, I didn’t know OT existed until my late 20’s, so that is something to start with” (10/01/10 PUSD Team Meeting Transcript).

***Accommodations and environmental modifications.*** Creatively determining appropriate accommodations through activity analysis was used by numerous therapists. The therapists worked with the teachers and other professionals to ensure that appropriate accommodations and environmental modifications were made for student success.

***Partnerships and community resources.*** Partnerships allowed for collaboration and utilization of existing programs for transition services. Partnerships with teachers, other professionals, and community resources allowed for transition-based intervention services provided by the occupational therapists. Community resources were available to provide pre-vocational opportunities and skills acquisition for the students. A local grocer had an existing program working with individuals with disabilities, and the occupational therapist promoted inclusion of high school students with disabilities be involved in the program, as well as adults. Additional community resources provided similar opportunities.

***Student involvement.*** Student involvement was recognized as an area of importance for transition planning and team meetings. It was indicated that the majority of IEP’s were developed by teachers, school professionals, and parents, but the student rarely gave input. By working with the students, the therapists recognized the insight

students have regarding their own abilities. A therapist encouraged a student to participate in an IEP meeting following assessment, and she explained the results.

They were surprised to hear that the student had insight into the fact that he didn't have any friends at school and was hard to get along with. They were surprised to know that he realized that his poor grades in his new classroom were based not on a lack of ability, but rather a lack of effort and responsibility on his part. At the meeting, he even talked about how he rushes to get things done and never goes back to check his work. He also talked about doing most of his work and then just not bothering to turn it in. He even talked about how it was a 'cycle' with his previous teacher. He said that he'd get kicked out, miss instruction, not understand or do the homework, and then when he asked for help would get in trouble again and get kicked out of the room. Somebody really should have listened to the kid before March because he certainly had something to say.

(03/04/11 Johnson Weekly Reflection)

***Intervention areas need more development.*** Specific intervention areas were discussed as needing development. Areas of strength-based goal setting and accommodations were specifically addressed. A therapist discussed her comfort of accommodations by saying, "We have enough knowledge to know accommodations and modifications can and should be made, but no idea what those could be" (12/10/10 Simmons Weekly Reflection).

**Service delivery.** Therapists indicated serving through students in different ways. Direct intervention was discussed as therapists worked directly with the student to teach various skills or apply accommodations and adaptations. Therapists provided services on



behalf of the student by training teachers and professionals in assistive technology and other tools, advocating for students needs, and by providing appropriate and important data regarding the students' performance to the IEP team. Therapists worked as program supports and modifications by advocated and educating school professionals on the benefits of occupational therapy involvement in high school transition services, as well as promoting curricula adjustment in life skills and transition classes. Lastly, therapists worked with students not on their caseload or students who did not have occupational therapy on their IEP to build transition-related skills. Therapists indicated a decrease in direct time spent with students, and an increased amount of time spent providing services in consultative or supplemental methods.

**Occupational therapists' role.** Therapists grappled with their changing role in providing services in the high school setting. Therapists explained their past roles as focused on handwriting, motor skills training, and classroom modifications. As therapists work on transition services, they explained their changing role to serve students holistically and in all areas of life skills.

As therapists discussed providing transition interventions at the high school setting, the lack of a definitive role of occupational therapy for transition services was evident. Therapists explained how they were unsure of their responsibilities in providing transition-related intervention. The therapists explained how other professionals were unsure of occupational therapy's role in providing transition-related services. And lastly, occupational therapists explained how they were unsure of other professionals' roles and services. Therapists explained a need to advocate for occupational therapy's role in transition services, but were slightly unsure of the role themselves. As the study

progressed, therapists described increased comfort and confidence in providing transition-related interventions for the students.

### **Collaboration and Relationships with Other Team Members**

Collaboration and relationships with other school professionals and team members prevailed as a common theme for occupational therapists working with secondary students with disabilities while focused on transition services. Collaboration in relation to school resources, overall services for students, knowledge regarding transition needs, collaboration, and hindrances to collaboration were evident throughout the data.

**School resources.** Collaboration was important with various school departments and teachers. The Peoria Unified School District also uses programs designed for success throughout school and adult life. The programs, My Life and Arizona Career System are used.

***Collaboration with school departments.*** Therapists actively collaborated with school professionals in various school departments to encourage student inclusion and success. Departments include the art department, special education department, adult training center, vocation rehabilitation, and the career and technical education department.

***Occupational therapy's involvement in class curricula.*** Therapists explained the opportunities presented to them regarding collaboration with special education teachers and classroom participation. Therapists were invited to teach and lead class session in a leadership class focused on self advocacy, organization skills, and life skills. A lead therapist explained an opportunity to include occupational therapists in weekly classes.

I asked her for the opportunity to work with her and the lead high school special education teacher to build a curriculum for this class that involves building organization skills, integrating assistive technology, self advocacy and coping skills for all our special education kids. I would like the class to be multi-disciplinary, and I would commit an OT for each high school one time per week to work in this class, bringing activities that support the teacher's lesson plans. She seemed to think this was an excellent idea. So, I will follow up with her.

(02/25/11 Simmons Weekly Reflection)

**Improved services for students.** Through collaboration with school professionals, teachers, parents, and students, the therapists were able to understand the student more holistically, as well as better able to apply information regarding students' strengths, areas of need, and interests.

**Goal writing.** Individualized, student-focused goal writing was improved through collaboration with professionals and the IEP team. Writing goals for the students through team collaboration was indicated to enhance carryover of goal attainment, as well as allow for more meaningful interventions. In addition, therapists collaborated with teachers and parents to best understand students' strengths and weakness which were then reflected in goals and IEP documentation

**Assistive technology and accommodations.** Occupational therapists referred to themselves as experts in the area of assistive technology. It was indicated that they were requested to evaluate and implement students' use of assistive technology, as well as train and consult teachers and other school professionals. Therapists were also requested to educate entire classrooms of students who did not receive occupational therapy services

on assistive technology use. Therapists discussed enthusiasm from both teachers and school professionals regarding potentials and possibilities through the use of assistive technology. A therapist commented on her perception of transition, accommodations, and assistive technology by saying:

Because of my increased awareness regarding transition, I am collaborating with high school staff and students to increase their ability to educate students with disabilities using appropriate accommodations or assistive technology as needed.

Because of my increased awareness of transition and my focus on the whole child, I am collaborating with staff on more children with needs that don't just pertain to fine motor coordination. (11/12/10 Simmons Weekly Reflection)

***Establish rapport.***

Therapists explained the need and benefits of establishing rapport with school professionals, teachers, parents, and students. As therapists built trust with these individuals, the therapists were invited into classrooms, sought for consult, and added to new students' IEP's. A therapist explained building trust by saying, "As the team-building process occurs, trust is built, and the teachers are educated on what role OT plays, the teachers are approaching us for additional information and guidance on certain issues" (09/08/10 Barnes Startup Reflection). The same therapist explained her invitation to an IEP meeting, "earlier this month one of the language arts resource teachers invited us to an IEP for a non-OT student so we could provide suggestions on assistive technology tools, accommodations, etc., for this student" (09/08/10 Barnes Startup Reflection). In response to the increased trust and recognition from school professionals and teachers, the therapists adjusted their role and participation. A therapist said, "I'm

taking a more active role in sharing information and collaborating with the educational team” (09/27/10 Barnes Weekly Reflection).

***Interventions.*** Therapists discussed improved interventions and ideas through team and parental collaboration. Therapists advocated for functional skills intervention be used for transition preparation. Therapists encouraged teachers, school professionals, and parents to recognize the importance of functional skills, as well as add intervention and training into class curricula. A therapist demonstrated her impact on intervention through collaboration efforts by saying:

I pointed out the fact that creativity is an area of demonstrated and observed skill so she will be taking art electives to further her abilities. I also noted that an area of weakness for the student was in the area of living skills relating to housing and money management. So, at the meeting as the transition paperwork was being filled out, she was signed up for a life skills/money management math class. The student, her mother, and the teacher all bought into the idea of her increasing her skills in these areas because of the information I provided. I also collaborated with the student’s mother to help her gain some volunteer work opportunities with animals as this is one of her areas of interest. She stated that they knew of someone who was already doing an activity with horses and will pursue this possibility. (12/06/10 Jones Weekly Reflection)

**Other professionals have limited transition-based knowledge.** Limited transition-based knowledge from other professionals was commonly discussed. Limited knowledge from other school professionals and teachers was a hindrance to appropriate

transition services for students. A therapist indicated poor post-secondary goals due to limited knowledge by the IEP team.

Our other related service providers and evaluators have no concept of post-secondary/transition planning and it was grossly evident how this will ultimately impact M.F. after he graduates. I will be typing his report this week and presenting next week so we will see if this will be helpful. (02/25/11 Simmons Weekly Reflection)

Additional school professionals recognized included case managers, teachers, instructional aides, psychologists, and others. Because of the lack of knowledge, some professionals were resistant to collaborate with occupational therapists, especially in the area of assistive technology.

**Collaboration with others.** Collaboration occurred with others on numerous occasions. Therapists collaborated with parents and gained a better understanding of the students' strengths, weaknesses, disability implications, and interests, as well as an opportunity to train and educate the parent. Interdisciplinary collaboration with related service providers, such as physical therapists and speech and language pathologists, promoted opportunities for the therapists to develop most appropriate recommendations and accommodations. Formal and informal collaboration with teachers and other school professionals allowed for increased intervention activities, overall understanding of the students' abilities, and improved goal attainment. Informal collaboration was offered by occupational therapists as they were approached by numerous specialists and school professionals regarding various areas of occupational therapy. These collaboration

exchanges promoted an understanding of occupational therapy, student needs, and increased caseload for the occupational therapists.

**Hindrances to collaboration.** Occupational therapists indicated several hindrances to collaboration within the school system. Reluctance and negative attitudes from other school professionals impacted collaboration efforts. School system regulations also present barriers to collaboration.

***Reluctance from professionals.*** Therapists experienced reluctance from school professionals and teachers for collaboration opportunities. Several therapists indicated reluctance from other professionals, including transition coordinators and behavioral specialists. Limited collaboration between professionals hindered student opportunities and success. In addition, limited collaboration creates barriers to continuity of care between academic years.

***School system regulations.*** Limited collaboration with school system officials presented barriers for change. School system regulations were indicated as hindering student success. Because of the credit-based high school curriculum, students were not afforded appropriate time to work with occupational therapists. In addition, lack of organization of student information presented difficulties in collaboration, continuity of care, goal setting, and interventions. Collaboration was sometimes limited between professionals, and so student data was lost or not recognized.

***Negative attitudes or expectations of other professionals.*** Other professionals sometimes pressured for definitive answers regarding students' abilities and expectations. Team members often focused on student weakness and inabilities rather than strengths and interests. Some teams were reluctant to accept transition-related recommendations

from occupational therapists. This negativity and reluctance hindered collaboration. A therapist described an experience in the IEP team with a parent.

During his IEP his teachers were very resistant to any positive remarks made regarding this student. At one point the parent told the team, via the Spanish interpreter, that it seemed as though the classroom teachers do not want the student in their classes. So the team basically lied to the mom and assured her that it wasn't the case. (11/19/10 Jones Weekly Reflection)

### **Therapists' Perspectives of Individual Students**

Throughout the data, therapists described individual students, the students' characteristics, their strengths, and challenges. As the students were described, the therapists gave input of their own perspectives of the students. Therapists' perspectives were in areas of student interests and abilities, student involvement within transition, and barriers that were presented for the therapist directly associated with students.

**Students' interests and abilities.** Therapists described how students developed, discovered, or revealed occupational interests. Therapists also created opportunities to empower students to discover their own abilities. Accommodations and assistive technology allowed for growth in self-advocacy and self-esteem.

***Holistic and strength-based focus from therapist to empower students.*** Several therapists described using a strength-based approach when working with the students. The therapists looked for and utilized the students' strengths in order to create interventions and opportunities that the student would be successful in and enjoy. Therapists described the tendency for other IEP team members to focus on student deficits rather than student strengths. This was indicated as a barrier to appropriate



transition intervention. The therapists said they continually advocated for inclusion of student strengths and interests during goal setting and program planning.

A holistic focus was also important to the therapists when working with students for transition. A therapist indicated her role in transition by exploring all areas of occupation.

The skills of leisure, play, education, IADL's and ADL's are all relevant to a child's everyday occupational performance as a student. If we start looking at the whole child and how we can either work directly with the student, or on behalf of the student with the educators in a larger context other than handwriting, we will begin to truly fulfill our role as OT's. (N/D Simmons Startup Reflection)

***Accommodations and assistive technology provides self-advocacy and self-esteem.*** Therapists discussed their perspectives in the improvement in the students' self-advocacy and self-esteem as new accommodations and assistive technology were introduced. Students were perceived to be motivated to try new equipment and were empowered as they began to use it. A therapist said, "the student is motivated to try, is not self-conscious about perhaps looking a little different than his peers" (10/29/10 Barnes Weekly Reflection). Another therapist explained their perception of empowering students through accommodations.

I understand now, that my role in helping a student with a disability is not to focus on remediation or on fixing the student, but in helping the team to provide appropriate accommodations in the educational setting and now in helping the student increase his or her awareness of the challenges and teach self-discover, self-acceptance, and self-advocacy. (12/03/10 Simmons Weekly Reflection)

**Perceived challenges for therapists.** Therapists described perceived challenges as they worked with students. Areas that were particularly challenged were the students' perceptions of their own abilities and the unique needs of each student's case.

***Students' perceptions of abilities.*** Therapists discussed how some students were perceived to be in denial of their disability, lacked interest in school or therapy, and had unrealistic expectations of post-secondary life. Intervention ideas for these students were hindered as therapists faced challenges in engaging or motivating the students, encourage self-acceptance, and promoting realistic life expectations. A therapist explained her perceptions of students struggling with these issues.

A lot of times my kids are in such denial that they are autistic, that they have special needs, that sitting down and just talking to them, I think they're not very realistic. The teachers are really focused on more of the academics only. So, it's harder to do activities with them. I think that the kids that have behavior problems that are constant having those pointed out to them, those kids, I have at the high school, I think that they're just, like when they're done with school, they're done with school and they're just going to stay home and do nothing. So, finding the strengths with them and sitting down and helping them find those positives would be a good thing because they're just so down on themselves, but they don't have those transition activities (01/11/11 PUSD Team Meeting Transcript).

Another therapist described difficulty in working with students with emotional disabilities. The therapist perceived these students as more likely to drop out of school.

She described the need to help this population of students at an early age to focus on healthy occupations and realistic expectations following high school completion.

*Each student presents unique needs.* Therapists described their perceptions of students having unique strengths, needs, interests, and abilities. The uniqueness of each case presented challenges for therapists. Defining specific interventions to use, continuity of services across occupational therapists and school professionals, and gaining knowledge of various vocations, skills, and assessments were perceived as being needed. A therapist described the subjective nature of decision making with teams, students, and parents.

I just think some of that depends on the team, the child, the parent, you know. So, your assessment, your evaluation, how you're going to approach that is always going to be different for each child based on their performance areas of weakness that people want more information, more support on" (01/11/11 PUSD Team Meeting Transcript).

Because each student was perceived as having unique interests and needs, therapists expressed uncertainty in appropriate intervention ideas. Some therapists were not confident in their abilities to match intervention goals to student interests and abilities. Therapists also struggled with development of ways to expose students who had limited interests to various occupations so that occupational interests could be pursued.

### **Transition Interventions Provided**

Transition interventions used were described throughout the data. Occupation-based skills were predominately discussed as occupational therapists provided transition-related services. The notion of workload compared to caseload responsibilities was also

addressed. Therapists provided services for numerous students who did not receive occupational therapy according to their IEP. Type of delivery method and time constraints were also described in relation to specific transition intervention.

**Occupation-based skills.** Occupation-based skills were evident when therapists discussed transition interventions. Occupation-based skills included skills needed to engage in functional occupations, such as activities of daily living, and skills required various vocational occupations. Therapists indicated targeting skills beyond those required in handwriting, and incorporated advocacy and teacher training into services provided. Lastly, assistive technology provided opportunities for students to engage in various occupations.

**Functional skills.** Services provided which specifically addressed transition preparation included increased attention to functional skills required for post-secondary life. Areas of community integration, activities of daily living, instrumental activities of daily living, and vocational skills were addressed in relation to transition planning. Community integration opportunities were provided. Therapists created community experiences based on functional cooking activities.

We went out into the community again (WalMart) and shopped for the supplies and materials necessary for pumpkin pudding. Kelly and I had previously taken pictures of all the necessary ingredients. I handed out 8" x 11" photos of the ingredients and with teacher assistance, our MD students scanned for the items, selected them and placed them into the carts. I know we have a long way to go with shopping, but at least the students were minimally involved with the shopping this time around. The student I worked with was actually able to look at

the picture and find the canned pumpkin, independently, at the end-cap display. All of these practical daily living experiences will contribute to the transition process.(11/22/10 Barnes Weekly Reflection)

Activities of daily living were addressed in the areas of meal preparation, cooking, and hygiene. A therapist explained how she used writing goals to address instrumental activities of daily living.

I have also pulled some of my students aside and instead of working on A.T. and “writing,” making sure they can write a check; fill out a deposit and withdrawal slip; sign their name; and complete mock job application forms both on-line and handwritten. I feel like I’ve gotten a better response from the students. I am planning on working with the SLP and trying to run groups together dealing with community related tasks (i.e. finding information on the internet, using cell phone, using a phone book or directory and reading/following a map). (N/D O’Leary Weekly Reflection)

Students’ vocational skills were addressed by occupational therapists for transition planning. Through community collaboration, therapists arranged work opportunities for students at various work sites. Within the school, therapists collaborated with speech language pathologists and teachers to create mock job experiences for multiple students by developing and maintaining a school store. Functional skills in these areas were specific transition-related interventions.

***Beyond fine motor and handwriting.*** A common theme amongst therapists was focusing on occupation-based skills beyond fine motor and handwriting activities. It was identified that therapists began school based practice with perceptions regarding their

main role as handwriting specialists. Other professional, such as teachers and psychologists did and continue to have the same perception. Throughout the data, therapists reflected a change of perception in their role for handwriting.

Before becoming involved in high school transition and beginning to redefine my role as an OT, I may have only viewed the fine motor needs of this student and accepted the primary role as handwriting instructor and have been the only person using sensory-motor strategies to enhance performance. But with my new model, I changed my role completely. (11/26/10 Simmons Weekly Reflection)

Therapists began to recognize the need to educate teachers to improve all students' handwriting, train students and school professionals in assistive technology devices and programs, and focus on functional communication strategies.

***Assistive technology.*** Assistive technology was used to promote function, emotional support, vocational skills, and independence for the student. Specific to transition intervention, therapists described using word processing software (WordQ/SpeakQ) to enhance communication abilities. A therapist clearly explained using assistive technology to enhance post-secondary outcomes.

If we can get really good at implementing technology to make them more successful there, then we can increase self-advocacy and self-awareness in the students who may end up in post-secondary education programs. If students can get a better picture of what their actual abilities are when we do a better job of making appropriate accommodations, it could potentially have a strong impact on their post-secondary or vocational decisions. (N/D Johnson Startup Reflection).

**Workload versus caseload.** Therapists described direct services compared to collaborating with other professionals on behalf of the child and to promote overall program supports. Therapists often worked with students not on their caseload. Type of delivery was discussed in relation to workload services. Time constraints were also identified in limiting expansion of caseloads.

**Services for students not on caseload.** Several therapists discussed working with and for students who were not included on their caseload. Not only are therapists working with students individually, but whole classrooms of students are being trained in assistive technology programming and transition-related skills. A therapist clearly stated this by saying, “I am getting called in on some occasions on working in a whole classroom of kids who do not have OT on their IEP at all” (09/03/10 PUDS Team Meeting Transcript). Additional opportunities were provided for therapists as they were included in program planning and curriculum development for transition, vocational, and functional classes for students.

**Type of delivery.** Delivery of services were discussed in terms of providing services to students. Direct services were provided but were not the primary for of service delivery. Teachers and paraprofessionals often worked directly with students, and so working with these professionals was crucial for intervention success. A consultative or supplemental service delivery was most commonly used as therapists educated, training, advocated for, and provided recommendations for students and school professionals. A therapist described the impact of supplemental service delivery as compared to direct service delivery by the number of students impacted. She said:

We are shifting more towards the consultative or supportive role as opposed to direct pull out intervention which fell into the motor box. And subsequently, we are increasing how many students we are able to impact and help, but it is in more of a supportive role. (10/28/10 PUSD Team Meeting Transcript)

Despite limited direct service time, therapists felt confident and productive in supporting roles. A therapist said, “Although my one to one, hands on time with the high school students is very limited, I have been feeling very effective and useful as a resource to the teachers” (10/13/10 Barnes Weekly Reflection).

***Time constraints limit intervention.*** Time to serve students was continuously discussed as a limiting factor to provide sufficient services. Because of time constraints, therapists often see students once per week. Concern was expressed that providing direct services only once per week would not lead to successful and functional therapy outcomes due to lack of skill repetition. Limited time to follow up on skills learned or effective services was presented as a hindrance to transition-based services. Team leadership, student advocacy, and continuing education regarding transition approaches were also discussed as negatively impacted due to limited time. Transition-related evaluations and services were discussed as extensive and time consuming. Therapists indicated a need for additional staffed therapists to be service students.

### **Summary**

Constant comparative data analysis through grounded theory methods produced seven open codes and four axial themes. Open codes included type of delivery, assistive technology, equipment and accommodations, handwriting, hindrances to intervention, other interventions, and population and cases. These codes were described through



categories and concepts expressed in memos. All memos were further analyzed to illustrate the four most axial themes or central phenomena associated with occupational therapists' intervention approaches associated with secondary transition services for students with disabilities. The central phenomena in this data set explained building a transition repertoire, collaboration and relationships with other team members, specific transition interventions used, and therapists' perspectives of individual students. Results can be applied to occupational therapy practice within secondary school settings in order to enhance secondary transition-related skills for students with disabilities with the goal to improve postsecondary adult outcomes and overall quality of life.

## CHAPTER 5

### **Discussion**

Occupational therapists possess unique therapeutic skills which have been proven effective to improve individuals' abilities and independence in areas of work skills, life skills, self-determination, and environmental modifications. Students with disabilities face challenges in the transition from secondary schooling to adult life which often lead to poor adult outcomes and poor quality of life for these individuals. Federally mandated secondary transition planning and services have the potential to dramatically improve students with disabilities' lives following high school completion. The occupational therapy practice framework directly correlates to mandated transition goals. However, school-based occupational therapists are currently not fulfilling their full potential as secondary transition service providers within the school system.

### **Purpose**

The purpose of the current study was to examine how occupational therapists in Arizona Peoria Unified School District utilized intervention strategies to enhance transition-related services for secondary students with disabilities. Data collected through a larger study, "Developing a Role for Occupational Therapy in Transition Services" was used for data analysis of the current research. A qualitative approach implementing grounded theory methods was used to create themes associated with the role of occupational therapy for the provision of transition-related interventions in the secondary school setting for students with disabilities. The themes are discussed in the previous chapter in relation to occupational therapy practice, in comparison with previous

literature, and for future implications for the role of occupational therapy in transition services at the secondary school setting.

### **Results in Relation to Literature**

The results of this study were significant in establishing themes which reflect occupational therapists' intervention approaches for secondary transition services in the high school setting for students with disabilities. Several areas were identified as occupational therapists built their transition repertoire within the high school. Collaboration and relationships were foundations to successful communication and student-focused services. Occupational therapists worked with team members and students to determine student strengths, interests, and areas of need, which further developed the therapists overall perception of the students' capabilities. Secondary transition interventions were revealed, as participants recollected in weekly journal reflections and team meetings about the intervention approaches that they used. Lastly, hindrances to successful occupational therapy participation in secondary transition planning and services were identified. These results add and confirm evidence in previous literature.

### **Building a Transition Repertoire**

Therapists described the development of their transition-based repertoire in the school system as they worked with students with disabilities. Occupational therapists repertoire or reputation related to secondary transition services is very limited if not non-existent in some school districts (Gangl et al., 2011). Participants in this study described activities and collaboration in order to develop their secondary transition repertoire within their school districts. The occupational therapy transition toolkit consisted of

abilities and interventions in areas of assistive technology, occupational exploration, accommodations and environmental adaptations, partnerships and community resources, student involvement, and creative development of intervention areas. Along with the occupational therapy transition toolkit, therapists adjusted their service delivery to best meet the needs of the students, and worked around an evolving role for occupational therapy services that were focused on transition preparation and transition services for secondary students with disabilities.

**Assistive technology.**

Occupational therapists involved in the study often referred to themselves as specialists in the area of assistive technology. They said that their services, evaluation, and training were often sought by teachers, professionals, and students in order to use and appropriately implement new technology. The discipline of occupational therapy has become widely known as specialists in the area of assistive technology in numerous settings beyond the classroom. Assistive technology supports independent functioning and community participation at school, home, work, and in the community (Watson et al., 2010). The United States government established student rights associated with promoting access to assistive technology within the school system (USDE, 2011). The use of assistive technology has been associated with increased quality of life following secondary school completion and reduced physical barriers in home and at work (Graff et al., 2006; Petersson, Lilja, Hammel, & Kottorp, 2008). Occupational therapists in this study found variance in the reactions to assistive technology from school professionals. Most school professionals were enthused about implementing the technology and eager to be trained. Other professionals demonstrated reluctance to accept and use the

technology. Overall, therapists explained that the students' use of assistive technology for transition-related skills lead to successful outcomes for student achievement and independence.

### **Environmental modifications and accommodations.**

Use of equipment, environmental modifications, and accommodations were often used by the occupational therapists. The therapists explained the opportunity to use creativity and activity analysis to provide appropriate supports for the students. Use of equipment and accommodations removed physical barriers that impeded independent function for students in transition-related skills (Wehman, 2006). Collaboration and training was also discussed in order for therapists to teach school professionals and parents to appropriately use the equipment. Gangl and colleagues (2011) also described collaboration and training regarding occupational therapists' involvement in secondary transition services.

### **Type of delivery.**

Type of delivery was often discussed in terms of intervention provision for transition-related services. Occupational therapists who were involved in this study discussed using a consultative service delivery most frequently. Formal consultation in IEP meetings was evident along with therapists' input for students' transition-related goal writing. Informal collaboration was often sought by regular education teachers, resource teachers, vocation rehabilitation specialists, and other related service providers. The shift from direct services to more supplemental and consultative services was evident throughout the data. This shift has been previously documented in literature explaining therapists' role in school based practice (Sandler, 1997). Sandler described the increased

use of the transdisciplinary service delivery model in the school system as professionals consult to provide input at IEP meetings and special education teachers, regular education teachers, and paraprofessionals carryout service delivery.

However, Gangl and colleagues (2011) reported that occupational therapists in their study rarely engaged in consultative services for secondary transition. Their participants were rarely involved in transition planning and services for secondary students, and when the occupational therapists were involved, the most often provided direct services, such as job site supervision or specific skills training. The goal of larger study that the current research is based on was to develop effective occupational therapy practices for secondary transition. Participants were deliberately providing transition-based services and personally reflected on their services weekly. In addition, monthly team meetings with the participants and researchers were used to reflect on effectiveness and areas for improvement in provision of transition-based services. Through analysis and reflection of the participants' services, best-practices regarding occupational therapy's involvement in secondary transition will be revealed. The current study analyzed data regarding transition-focused interventions, and revealed collaborative and consultative delivery approaches were most effective. And so, the current study confirms the use of transdisciplinary teamwork and adds evidence regarding the need for consultative services while addressing secondary transition planning and services.

### **Collaboration and Relationships with Others**

Therapists developed relationships within the school system to further broaden services for students. Collaboration with school departments, teachers, paraprofessionals, parents, and students was evident. Collaboration with teachers for curricular planning

provided opportunities for transition preparation for numerous students and whole classrooms. Shasby and Schneck (2011) determined the effectiveness of collaboration with school professionals and occupational therapists. They noted that collaboration should be sought with school administration on an organizational level, as well as with teachers. Collaboration and intervention approaches with teachers allowed for transition services to be provided for students receiving occupational therapy, as well as students who did not receive occupational therapy services. Shasby and Schneck explained time commitments teachers and therapists must make in order to provide effective and curriculum appropriate interventions. The authors also described the need to for therapists to fully educate the teachers on the benefits of occupational therapy involvement and intervention. Shasby and Schneck, as well as the current study, found collaboration and therapists' rapport promoted service improvements in areas of goal writing, assistive technology, and interventions.

### **Therapists' Perspectives of Students**

The theme illustrated therapists' perceptions associated with students' interests and abilities. The need for holistic and strength-based focus in order to empower students was identified. Participants discussed how they, the occupational therapists, were most often the team member which focused on student abilities, used a holistic approach when addressing student needs, and collaborated with the student to better understand the students' goals and interests, as well as the students' insights to their own abilities. Gangl and colleagues' (2011) participants also identified their ability, as occupational therapists, to understand students' abilities, match student abilities to potential job requirements, and maintained a functional lens while addressing student

needs. Michaels and Olentlicher (2004) also established effective occupational therapy services focused on postsecondary outcomes by using a person-centered framework. In addition, accommodations and assistive technology were used in the current study and provided self-advocacy and self-esteem for the students as they completed transition-related tasks with greater independence (Wehman, 2006).

Perceived challenges associated with the students were revealed. Students' own perceptions of their abilities and unique student needs presented challenges while working on transition skills. The therapists discussed areas of need in determining students' eligibility for occupational therapy and transition services, a need for student involvement in transition planning, and a need for overall education regarding transition planning and services for the professional team. In addition to areas of need concerning the population, therapists discussed advocacy for appropriate student placements, class scheduling conflicts, and qualification specifications to transition-related programs, such as vocation rehabilitation.

### **Transition Interventions**

Occupation-based skills were promoted through intervention with a focus on functional skills beyond handwriting and motor skills. Transition interventions included functional skills training, idea formation for interventions, collaboration with various people and professionals, and utilization of established programs, such as vocation rehabilitation, transition-based classes, and adult learning programs. Gangl and colleagues (2011) also identified functional skills training as an intervention offered by occupational therapists working in secondary transition. A participant in Gangl's study



said, “I think we see the importance of functioning in the school environment, but we also see functioning in life as the ultimate goal” (p. 160).

In the current study, transition-related interventions were often provided to students with and without occupational therapy services documented on their IEP. Gangl and others also found that occupational therapists in the school system have a desire to work with students who are not on their caseload. It was said that participants “expressed a desire to move beyond their caseload and offer life skills training to all students” (p. 160). It is evident that transition-related skills have potential to be beneficial for all students, not just students identified as needing occupational therapy services. In addition, type of delivery was described in relation to interventions provided, as often times transition-related interventions were provided through consultative or collaborative methods. Student and parent interactions allowed for increased collaboration, and rapport with professional team members increased therapists’ caseloads and student resources.

### **Hindrances**

Occupational therapists involved in this study articulated hindrances to effectively providing transition-related intervention services. Beck, Barnes, Vogel, and Grice (2006) surveyed occupational therapists working in public school systems regarding services for students with psychosocial needs. They determined hindrances to providing occupational therapy services for emotional disabled students within the school system. Their results are similar to hindrances found in the current study. Results by Beck et al. and the current study are comparable as they both reflect on hindrances of service provision in areas of emerging practice areas for occupational therapy within the school system (AOTA,

2011). Gangl and colleagues (2011) also determined hindrances for occupational therapists in providing secondary transition services within the school system.

Limited specific knowledge and experience related to transition planning and service provision for the occupational therapists was discussed as a hindrance in the current study. Therapists described difficulty in intervention planning, along with pairing student abilities to correlating jobs. Similarly, Beck and colleagues (2006) revealed limited knowledge in the area of psychosocial interventions as a hindrance.

Therapists discussed difficulty in involvement of transition-related interventions due to lack of knowledge by other school professionals. Professionals supporting the student, such as case managers and teachers, were described as limiting possibilities for intervention due to lack of understanding and knowledge of transition planning. Other school professionals also lacked knowledge of occupational therapy service possibilities within transition.

In addition to limited knowledge of other professionals, therapists discussed uncertainty of other professionals' roles within transition planning and service provision. Not knowing what areas were covered by other professionals responsibilities, occupational therapists explained further role confusion because of the lack of a definitive role for occupational therapy in transition-related intervention. Similarly, Beck and colleagues (2006) identified difficulty in role confusion while working with students with psychosocial needs. Uncertain boundaries of other professionals, as well as occupational therapy, and a lack of a definitive role for their role in psychosocial intervention was a predominate challenge. Occupational therapists in the current study were faced with continuous advocacy for occupational therapy's role in transition despite

not having full confidence in their own role. Gangl and colleagues (2011) also identified “constraint by the personnel’s perceptions of school-based OT” (p. 161) as hindrance to effective therapy interventions for secondary transition. Limited knowledge by other school professionals regarding occupational therapists’ role within the overall school system was evident, and minimal knowledge of occupational therapy’s role in transition was articulated. A school-based, non-OT participant said, “I couldn’t even begin to describe the essential functions of an occupational therapist” (p. 158). This point clearly illustrates limited knowledge of occupational therapy’s role by other school professionals.

Handwriting was discussed by the occupational therapist involved in the current study. They described their previous role as handwriting a specialist, which has put limits on role expansion into other areas of practice. Both Beck and others and Gangl and others (2011) revealed hindrances to expanding occupational therapy’s role within the school system beyond handwriting and fine motor skills due to defined previous roles in these areas.

Lastly, time constraints limited intervention opportunities, as therapists were often pressured for time between the numerous responsibilities associated with their job. Beck and colleagues (2006) identified limited service time and limited time to collaborate as hindrances to service provision. In addition, Gangl and colleagues (2011) identified limited time for transition service provision and collaboration as hindrances to effective secondary transition intervention. Time is needed to build relationships with school professionals, advocate for occupational therapy’s role in transition, intervention planning, student assessment and intervention, and evaluation. In addition, students who

are not on therapists' caseload are often identified as needed transition-related skill development which further limits occupational therapists' time.

### **Implications for Occupational Therapy**

This study shows occupational therapists should become active members in secondary transition planning and service provision for students with disabilities. Occupational therapists' skills and practice framework allow for therapy services to be used for secondary transition while in high school. The results add evidence to describe the use of transition-related intervention provided by occupational therapists for secondary students with disabilities within the high school setting.

Several areas associated with transition-related intervention were discussed throughout the results of this study. Direct intervention was not the predominate method of service delivery for transition-related intervention. School-based occupational therapists most often used consultative methods within a transdisciplinary service delivery model while addressing transition-related needs for secondary students. Special education teachers, regular education teachers, and paraprofessionals worked with the students most frequently, so the therapists educated these professionals in appropriate interventions to address functional, transition-related skills. In order to maximize transition-related intervention results, occupational therapists in the secondary school setting must be comfortable in the role of a consultant, as well as directly working with the students, collaborating with all school professionals, and continuously advocating for student strengths.

Occupational therapists were viewed as assistive technology specialists by professionals within the high school setting. This entitled the therapists to train teachers,

students, entire classrooms, and staff in appropriate use as well as new opportunities while using assistive technology. Occupational therapists providing transition-related intervention within the high school must have an understanding of assistive technology. Willingness to pursue continued education in the area is also needed in order to enhance students' independence, self-efficacy, and self-esteem in functional adult roles as technology continually changes.

Environmental modification, accommodations, and use of equipment are needed within the school system so that students with disabilities can fully access their education. These aspects are utilized in transition-related interventions to enhance access to job skills, transportation, promote efficient workloads for students, and enable independence in living skills. These areas, along with assistive technology, allow students to embrace their own abilities, increase self-esteem, maintain employment, and engage in increased adult roles. Occupational therapists focusing on transition-related interventions creatively recognize areas in need of environmental modification and accommodations. Within the secondary school setting, not only are recognition and implementation necessary, but collaboration and training to teachers, paraprofessionals, students and parents, in correct use and possibilities, are also crucial for efficient and successful use.

Handwriting instruction has often been used as an intervention by occupational therapists within the school system. Most school-based occupational therapists work in elementary and middle school settings, where transition-related skills are not a forefront concern in terms of intervention. The results in this study indicate an intervention shift from focusing on handwriting skills to functional skills and assistive technology within the secondary school setting. Handwriting was not a predominate concern in the

secondary setting, unless it was mandatory for functional, job related skills, such as filling out a job application or writing a check. A holistic focus on all areas of occupation beyond handwriting is useful in the secondary school setting in order to promote overall function and postsecondary success for students with disabilities.

Creative occupational therapy interventions for various job skills, student interests and abilities, and community integration are necessary for transition-related interventions. Occupational therapists worked as consultants with teachers in curricula supports, teach classes, collaborate with numerous school departments, and work with community resources in order to effectively implement transition-related interventions. Associated with creative intervention implementation, individualized student strengths, interests, and needs become evident as occupational therapists provide person-centered services for transition-related skills. Occupational therapists providing strength-based, student-centered interventions must use creative activity analysis, collaborative methods, and an occupation-based approach in order to be effective.

Several areas within the secondary school setting present hindrances for occupational therapists while providing transition-related interventions. By identifying hindrances in providing transition-related interventions in the secondary school setting, occupational therapists can prepare for these barriers, develop effective strategies, and increase success in overcoming challenges. In preparation for transition-related interventions, occupational therapists can increase their knowledge and understanding of transition. Additional areas requiring strong understanding include related legislation (IDEA) and documentation, creatively designed intervention plans, promoting relationships within the school to enhance communication, and establishing a dominate

role in transition services. Occupational therapists can remain occupation-based through intervention, utilize unique occupational exploration tools, maintain a strength-based, student-centered approach, and facilitate school structure improvements to benefit all students as they transition into adulthood.

Establishment of the occupational therapists' repertoire for transition-related interventions was important in determining therapists' role in transition. The occupational therapy toolkit included activities and interventions used for transition-related skills that students need for successful transition into postsecondary life. Therapists are also known for student advocacy and strength-based, functional goal writing. Abilities in task analysis and environmental modifications establish occupational therapists as effective professionals to match student abilities and interests with specific job responsibilities. Further development and experience in occupational therapists' reputation in transition will lead to opportunities for success and improved student outcomes. In addition, use of transition-related student evaluation of present functional abilities will provide data the therapists can present at IEP meetings in order to better advocate for the student, promote student involvement, and enhance outcomes.

As previously mentioned, effective collaboration with school professionals, administrators, students, and parents is crucial for effective and efficient transition-related interventions. The occupational therapists focusing on transition in secondary schools also communicates with various professionals, such as vocation rehabilitation specialists, job coaches, transition specialists, and others. Collaboration must continue with individuals in the community in order to create relationships for opportunities of

community integration and postsecondary success. Community relationships should include employers, community programs, living facilities, and others.

Therapists' perceptions of individual students played a key role in intervention planning. Individualized intervention planning was designed to reflect students' strengths, abilities, and interests as perceived by the therapists. Occupational therapists working in the secondary school setting use their perceptions of students to use individualized strength-based, student-focused approaches with a holistic view of all student abilities. Through effective evaluation and intervention, therapists talk with students in order to gain better understandings of student insights and interests. In addition, occupational therapists promote student involvement in IEP planning and transition-related skill development. Student involvement must continue to be implemented in order to create student-desired and achievable postsecondary goals.

Specific interventions related to transition were a key focus of this study. Occupational therapists present unique attributes in working with secondary students with disabilities while preparing for postsecondary life. Occupation-based services allow for functional skills related to occupational engagement. Expertise in areas of environmental modification, task analysis, job skills, living skills, and occupational exploration create a unique match in intervention provision and transition needs. Occupational therapists working in the school system should embrace these areas of expertise to promote greater success and independence in adult life for secondary students with disabilities.

An interesting notion of workload versus caseload regarding intervention was also revealed. Several therapists discussed working with students who did not receive occupational therapy services according to their IEP. The students received training in



assistive technology, environmental modification, and other transition-related intervention. In addition, numerous hours were devoted for collaboration on behalf of students. Occupational therapists working in the secondary school system do not use the traditional caseload as seen in rehabilitative settings, but rather a workload to encompass all areas of work related to working for the student, on behalf of the student, and as program supports according to IDEA. Interventions related to transition are evident in all three service areas. Development of services in these areas should continue to be defined by school-based occupational therapists.

There are several implications in occupational therapy school-based services of results in this study. Results describe current transition-related interventions provided by occupational therapists at high schools in Arizona's Peoria Unified School District. This study is the first to describe occupational therapy intervention practices related to transition services in secondary school settings. Establishment of these central phenomena creates an intervention base which future evidence and practice can be developed. Professional knowledge and growth of occupational therapy in secondary transition can be gained through this study.

## **Recommendations**

### **Role of Occupational Therapy in Secondary Transition**

The role of occupational therapy in secondary transition-related service provision within secondary school settings needs to be established in order to enhance intervention services. A defined role for occupational therapy will also increase recognition of the discipline as a needed profession to be included in transition planning. With a defined role, occupational therapists may begin to work to their full potential in the area of

secondary transition services within the school system.

### **Establishment of National Policies**

Following establishment of the occupational therapists role in secondary transition services for students with disabilities, national and state guidelines should be created to promote universal use and success of occupational therapy service provision in transition. Policy establishment for occupational therapy's role in service delivery, as well as framework design should be created. Occupational therapy educational programs should fully address secondary transition needs in relation to school-based practice so newly graduated therapists will have a knowledge base of appropriate interventions and service delivery related to transition.

### **Education**

Occupational therapy education on all levels including occupational therapy assistants, occupational therapists, and administrative occupational therapists should receive more detailed and applicable education regarding secondary transition intervention approaches. Entry-level education for new occupational therapists should reflect secondary transition services areas, so that all incoming therapists have a knowledge base of services areas for transition. In addition, continuing education opportunities for current occupational therapists must be provided in order fully educate therapists on their role in secondary transition-related intervention in high schools.

### **Continued Research**

Due to the limited evidence in occupational therapy interventions related to transition for secondary students with disabilities, continued research regarding this topic is needed to verify the results of this study, as well as expand useful intervention

approaches. As the prevalence of occupational therapy involvement in secondary transition planning continues to rise, research is needed to determine postsecondary outcomes for students who received therapy services while in high school.

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APPENDIX A:  
Data Included in Each Theoretical Memo

Table 2

*Memo: Type of Delivery*

Participant	Start Up	Personal Reflections	Transcriptions from PUSD research meeting
Barnes	10.09.08	10.9.27, 10.10.1, 10.10.13, 10.10.22, 10.11.22	10.09.03, 10.10.1, 10.10.28
Johnson		10.11.24, 11.01.10	
Jones	10.08.10	10.9.30, 10.10.08, 10.10.22, 10.10.15, 10.10.29, 10.11.19, 10.11.26, 10.12.03, 10.12.06, 10.12.09	
Simmons		10.10.1, 10.10.8, 10.10.15, 10.10.22, 10.10.29, 10.11.12, 10.11.26, 10.12.03, 10.12.10, 10.12.17	

Table 3

*Memo: Assistive Technology*

Participant	Start Up	Personal Reflections	Transcriptions from PUSD research meeting
Barnes	10.09.08	10.9.27, 10.10.1, 10.10.13, 10.10.22, 10.11.22	10.09.03, 10.10.1, 10.10.28
Johnson		10.11.24, 11.01.10	
Jones	10.08.10	10.9.30, 10.10.08, 10.10.22, 10.10.15, 10.10.29, 10.11.19, 10.11.26, 10.12.03, 10.12.06, 10.12.09	
Simmons		10.10.1, 10.10.8, 10.10.15, 10.10.22, 10.10.29, 10.11.12, 10.11.26, 10.12.03, 10.12.10, 10.12.17	

Table 4

*Memo: Equipment and Accommodations*

Participant	Start Up	Personal Reflections	Transcriptions from PUSD research meeting
Barnes	10.09.08	10.9.27, 10.10.1, 10.10.13, 10.10.22, 10.11.22	10.09.03, 10.10.1, 10.10.28
Johnson		10.11.24, 11.01.10	
Jones	10.08.10	10.9.30, 10.10.08, 10.10.22, 10.10.15, 10.10.29, 10.11.19, 10.11.26, 10.12.03, 10.12.06, 10.12.09	
Simmons		10.10.1, 10.10.8, 10.10.15, 10.10.22, 10.10.29, 10.11.12, 10.11.26, 10.12.03, 10.12.10, 10.12.17	

Table 5

*Memo: Handwriting*

Participant	Start Up	Personal Reflections	Transcriptions from PUSD research meeting
Barnes	10.09.08	10.9.27, 10.10.1, 10.10.13, 10.10.22, 10.11.22	10.09.03, 10.10.1, 10.10.28
Johnson		10.11.24, 11.01.10	
Jones	10.08.10	10.9.30, 10.10.08, 10.10.22, 10.10.15, 10.10.29, 10.11.19, 10.11.26, 10.12.03, 10.12.06, 10.12.09	
Simmons		10.10.1, 10.10.8, 10.10.15, 10.10.22, 10.10.29, 10.11.12, 10.11.26, 10.12.03, 10.12.10, 10.12.17	

Table 6

*Memo: Hindrances to Intervention*

Participant	Start Up	Personal Reflections	Transcriptions from PUSD research meeting
Barnes	10.09.08	10.9.27, 10.10.1, 10.10.13, 10.10.22, 10.11.22, 11.02.07, 11.04.11, 11.05.10	10.09.03, 10.10.1, 10.10.28, 10.12.10, 11.01.11, 11.02.15
Johnson	Used (no date)	10.11.24, 11.01.14, 11.02.11, 11.03.04	
Jones	10.08.10	10.9.30, 10.10.08, 10.10.22, 10.10.15, 10.10.29, 10.11.19, 10.11.26, 10.12.03, 10.12.06, 10.12.09, 11.01.14, 11.01.28, 11.02.04, 11.02.11, 11.02.18, 11.02.25, 11.03.04	
O'Leary		11.02.03, 11.02.11, 11.03.09, 11.04.11, 11.05.10	
Simmons	Used (no date)	10.10.1, 10.10.8, 10.10.15, 10.10.22, 10.10.29, 10.11.12, 10.11.26, 10.12.03, 10.12.10, 10.12.17, 11.01.07, 11.01.14, 11.01.21, 11.02.04, 11.02.11, 11.02.18, 11.02.25, 11.03.05, 11.03.11, 11.04.01, 11.04.08, 11.04.15, 11.04.22, 11.04.29, 11.04.29, 11.05.06	



Table 7

*Memo: Other Interventions*

Participant	Start Up	Personal Reflections	Transcriptions from PUSD research meeting
Barnes	10.09.08	10.9.27, 10.10.1, 10.10.13, 10.10.22, 10.11.22, 11.02.07, 11.04.11, 11.05.10	10.09.03, 10.10.1, 10.10.28, 10.12.10, 11.01.11, 11.02.15, 11.04.14
Johnson	Used (no date)	10.11.24, 11.01.14, 11.02.11, 11.03.04	
Jones	10.08.10	10.9.30, 10.10.08, 10.10.22, 10.10.15, 10.10.29, 10.11.19, 10.11.26, 10.12.03, 10.12.06, 10.12.09, 11.01.14, 11.01.28, 11.02.04, 11.02.11, 11.02.18, 11.02.25, 11.03.04	
O'Leary		11.02.03, 11.02.11, 11.03.09, 11.04.11, 11.05.10	
Simmons	Used (no date)	10.10.1, 10.10.8, 10.10.15, 10.10.22, 10.10.29, 10.11.12, 10.11.26, 10.12.03, 10.12.10, 10.12.17, 11.01.07, 11.01.14, 11.01.21, 11.02.04, 11.02.11, 11.02.18, 11.02.25, 11.03.05, 11.03.11, 11.04.01, 11.04.08, 11.04.15, 11.04.22, 11.04.29, 11.04.29, 11.05.06	

Table 8

*Memo: Population and Cases*

Participant	Start Up	Personal Reflections	Transcriptions from PUSD research meeting
Barnes	10.09.08	10.9.27, 10.10.1, 10.10.13, 10.10.22, 10.11.22, 11.02.07, 11.04.11, 11.05.10	10.09.03, 10.10.1, 10.10.28, 10.12.10, 11.01.11, 11.02.15, 11.04.14
Johnson	Used (no date)	10.11.24, 11.01.14, 11.02.11, 11.03.04	
Jones	10.08.10	10.9.30, 10.10.08, 10.10.22, 10.10.15, 10.10.29, 10.11.19, 10.11.26, 10.12.03, 10.12.06, 10.12.09, 11.01.14, 11.01.28, 11.02.04, 11.02.11, 11.02.18, 11.02.25, 11.03.04	
O'Leary		11.02.03, 11.02.11, 11.03.09, 11.04.11, 11.05.10	
Simmons	Used (no date)	10.10.1, 10.10.8, 10.10.15, 10.10.22, 10.10.29, 10.11.12, 10.11.26, 10.12.03, 10.12.10, 10.12.17, 11.01.07, 11.01.14, 11.01.21, 11.02.04, 11.02.11, 11.02.18, 11.02.25, 11.03.05, 11.03.11, 11.04.01, 11.04.08, 11.04.15, 11.04.22, 11.04.29, 11.04.29, 11.05.06	