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# The Role of Occupational Therapy in Transition Programs for High School Students with Disabilities

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#### Abstract

Public schools are required to provide reasonable accommodations to students with disabilities. Individualized Education Plans (IEPs) include transition planning to prepare for life after graduation focusing on employment and independent living. Although these services are required, high school students with disabilities have lower rates of employment and independent living compared to their peers. OT services are reimbursed under IEPs, but there is a gap in service with under-utilization in transition planning. The purpose of this DCE was program development with the transition program, Project SEARCH, while also exploring the role OT has in transition planning for high school students with disabilities. The goal of this project was to improve work skills, self-advocacy, and independence of the students enrolled in this program. This was completed using objectives including, understanding the student's perspective of their work performance, analyzing their work tasks, creating environmental modifications, providing direct support at internship sites to improve task completion and efficiency, leading group lessons and activities to support classroom learning, and assisting with instrumental activities of daily living such as community mobility and health management skills. These objectives were created to enhance the skill set of these students and ultimately their independence utilizing occupational therapy services.

#### **Introduction to Capstone Project**

The focus of this Doctoral Capstone Experience (DCE) was program development while exploring the role occupational therapy (OT) has in transition programs for students with disabilities graduating from high school. The host site for this DCE was Spartan Project SEARCH (SPS), located on the campus of Michigan State University (MSU) in East Lansing, MI. Project SEARCH is a transition program for high school students with disabilities founded at

the Cincinnati Children's Hospital and has expanded to international locations. Their mission is for high school students with disabilities to achieve integrated employment after graduation. Any student with a qualifying disability and receiving an IEP can enter the program during their final year of high school. Each program is led by a special education teacher from the local school district and supported with work skills trainers. Students enrolled in this program complete three internships at a host business or hospital where they receive direct support and mentorship to improve specific work tasks. They complete four-hour shifts at their internship in addition to two hours of classroom instruction each day. Classroom instruction covers topics including health and wellness, team building, workplace safety, self-advocacy, preparing for employment, maintaining employment, technology, and financial literacy. The classroom curriculum was developed with an Occupational Therapist working directly with Project SEARCH. At the completion of the program, students have learned skills to increase their independence in activities of daily living while improving their agency and general well-being.

During this DCE there were seven students enrolled in SPS. MSU is unique as a host site for Project SEARCH due to the internship sites being in a variety of settings across campus, rather than being contained in a single building, such as a hospital. This brings on additional challenges and learning opportunities for students who may need to utilize public transportation to travel to their job. Students have completed internships in settings including dining and academic halls, the linen facility, the woodshop, landscaping and roofing departments, campus animal research center, horticulture center, library, credit union, power plant, and campus convivence stores. For a list of all internship sites and condensed student responsibilities, see Appendix A. Students are matched with internship sites based on their own interests, skills, and future employment goals. While at their internship sites, students have learned a variety of pre-

vocational skills such as meal and food preparation, laundry, general cleaning, file organization, and the use of basic power tools. Students are held accountable to arrive to their internship on time, use professional workplace communication and behaviors, and present with a readiness to work. By the time a student completes an internship rotation, it is expected that they will be independent in all tasks required of them at that site. Exposure to realistic workplace environments while receiving adequate supports produces a just-right challenge where students can successfully learn the skills required to sustain competitive and integrated employment after graduation.

Brooke Locher is a special education teacher who has been leading SPS four years. She has previously held roles in Autism classrooms for children from four to twelve years old. Brooke served as my capstone site mentor who was a great collaborator and mentor with her valuable experience working with this population. Under Brooke's guidance, I took on the role of a work skills trainer directly supporting students at their individual job sites. I used activity analysis to create environmental and activity modifications to increase efficiency and task completion of the students working. My role then extended into the classroom setting where I facilitated group discussion and reflection on job performance, led group activities targeting interoception, visual perceptual skills, money management, and exercise.

#### **Literature Review**

The young minds journeying through grade school are being shaped by their experiences and opportunities which will impact the rest of their lives. Students in special education programs receive individualized support in the classroom to ensure they can achieve success. However, once these students leave high school the amount of support drastically decreases which is known as the "cliff" in this community (Hendren, 2021). This termination of support

quickly requires students, and their families, to be self-sufficient and navigate the new challenges of adulthood including money management, gaining paid employment, health care, and independent living skills (Hendren, 2021). Students with disabilities have lower rates of graduation, paid employment, post-secondary education, and independent living compared to their peers without disabilities (Spencer et al., 2003). The lack of support during the transition can be filled by occupational therapy (OT) narrowing the gap in employment, improving community integration, and increasing paid employment, education, and health promotion (Mankey, 2014). The purpose of this literature review is to examine the laws of public education that directly impact students with disabilities and the role OT has in supporting this population during their transition out of secondary education. The search tools used were Google Scholar and PubMed. The search terms used were "occupational therapy", "post-secondary transition", "special education" and "IEP".

#### **Background on Special Education Laws**

The United States Department of Education provides guidelines that ensure every child who enters a public school has the opportunity to thrive and provide them with the tools needed for success. Specific to the students with documented disabilities, there are federal mandates to provide them with additional resources and support in the classroom. One example is the Individuals with Disabilities Education Act (IDEA) which requires public schools to provide students with a Free and Appropriate Education (FAPE) (Cahill & Bazyk, 2020). Part B of IDEA supports Individualized Education Plans (IEPs) which are unique plans that provide students with additional resources or adaptations in the classroom based on their own needs to promote equitable learning environments (Cahill & Bazyk, 2020). Accommodations in the classroom are "changes that help a student overcome or work around their learning challenge", which include

extended time on tests, spelling and grammar assistive devices, note takers, peer buddies, or graphic organizers (Hart & Brehm, 2013).

To qualify for an IEP the student must be evaluated and demonstrate a disability in one of the following areas of intellectual disability, hearing impairment, speech and language impairment, visual impairment, serious emotional disturbance, orthopedic impairment, autism, traumatic brain injury, another health impairment, specific learning disability, or multiple disabilities (Cahill & Bazyk, 2020). Once a disability is formally identified, the student acquires a multidisciplinary team that supports them and tracks the student's progress. This team consists of the educators, any professionals who contributed to creating the IEP, and the student and their parent or guardian, who are all equal members of the team (Angell et al., 2019). OT is an example of a professional who may be a member of the IEP team, as their service is covered under Part B of IDEA, supporting the student's IEP progress (Cahill & Bazyk, 2020). These supports and services end once a student graduates from high school (Cleary & Persch, 2020).

#### **Transition Planning**

Becoming employed after secondary school signifies the transition into adulthood which is valued in our society (Nochajski & Schweitzer, 2014). Students with disabilities have less favorable outcomes regarding securing paid employment and post-secondary education resulting in disparities in the workforce (Lindsay et al., 2016). While these students are still in school, their IEP requires creating a transition plan no later than turning 16 to prepare for their life after graduation (Cleary & Persch, 2020). This plan documents the student's goals for future employment, continuing education, or independent living when appropriate (Cahill & Bazyk, 2020). However, there continue to be barriers that limit the effectiveness of IEPs and transition plans in school (Cavendish & Connor, 2018).

Cavendish & Connor (2018) identified barriers to the effectiveness of these plans including parent and student involvement, as well as effective support for graduation and career planning. Student attendance in IEP meetings is crucial for the success of the program, however, it is reported that only 53% of students attend their IEP meetings and only 33% what know their IEP goals are (Cavendish & Connor, 2018). Students report not attending these meetings due to limited meaningful involvement in contributing to the plan (Cavendish & Connor, 2018). Similarly, parents also report decreased attendance to the IEP meetings due to feelings of alienation in the meeting and process (Cavendish & Connor, 2018). Other factors limiting parent involvement include time restraints with work, lack of opportunity to provide input, and communication challenges (Cavendish & Connor, 2018). Although the IDEA considers parents equal members of the IEP team, they are under-represented during these meetings (Cavendish & Connor, 2018). Wehman et al., (2015) reported that greater parental expectations for employment after graduation were related to increased employment outcomes, confirming that parental involvement is a key factor in success.

Having effective supports for graduation as well as career and college planning are barriers to the effectiveness of IEP and transition planning in the schools (Cavendish & Connor, 2018). Teachers reported that due to the increased pressure on having their students pass state tests for graduation, there is limited time for supporting the transition after graduation (Cavendish & Connor, 2018). Although the IDEA requires IEPs to include transition planning no later than 16 years (Cleary & Persch, 2020), career and college planning are often not started until the student is in 12<sup>th</sup> grade (Cavendish & Connor, 2018).

Due to decreased planning and support, students do not have the tools and skills needed to navigate life after graduation independently. At this point, students face the "cliff", the

significant decrease in services that they need to develop skills required for paid employment, post-secondary education, or independent living (Hendren, 2021). The effects of ineffective transition planning result in students with disabilities being less likely to find and maintain paid employment, attend post-secondary education, and have decreased social participation (Lindsay et al., 2016). Wehman et al. (2015) reported that of 2,900 students with disabilities, only 38% of them were employed at any time during the three-to-five-year period after graduating high school.

The factors associated with positively impacting post-graduation employment rates have also been researched. These strengths include the student's attendance in school, having employment experiences during high school, attending post-secondary education, no arrest record, and increased parental involvement and expectations (Wehman et al., 2015). Being exposed to employment experiences and opportunities while still in high school offers students a risk-free way of exploring potential employment options after graduation. This also offers students a way to practice work skills that are required for a job and understand the job expectations. Mankey (2014) identified self-advocacy as another key factor in employment after graduation. Having the skill to advocate for yourself, your needs, and accommodations is an essential part of securing competitive employment (Mankey, 2014). Students with disabilities require more training on how to have these conversations with employers and communicate their unique needs.

#### The Role of Occupational Therapy

OT is defined as "the therapeutic use of everyday life occupations with persons, groups, or populations for the purpose of enhancing or enabling participation" (American Occupational Therapy Association). With an emphasis on occupations that are meaningful to the client, OT can increase participation in activities of daily living (ADL) to improve the quality of life and

well-being of the individual. ADLs are defined as activities that are "fundamental to living in a social world; they enable basic survival and well-being" (American Occupational Therapy Association). Examples of ADLs that OT commonly focuses on are showering, toileting, dressing, eating, and personal hygiene (American Occupational Therapy Association).

OT services are covered in schools and included in the IEP process under Part B of IDEA (Cahill & Bazyk, 2020). OT's role in the school setting is to enhance skills that are needed for learning and participating in the classroom (Cahill & Bazyk, 2020). This can be completed by assisting students in homework completion, aiding in test-taking strategies, increasing self-care activities, engaging in recess or outdoor activities, as well as improving social participation with peers (Benson et al., 2016). Although services are covered, research finds that school-based OTs provide more services to preschool and elementary students than high school students (Spencer et al., 2003). Mankey (2014) reports that heavy OT involvement in the early intervention programs for birth to three, then decreased involvement through adolescence contributes to this discrepancy.

#### The Role of Occupational Therapy in Transitions

When students with disabilities are not provided adequate resources and tools during the transition process, it results in a decrease in ADL performance which is directly related to their rates of employment and post-secondary education (Hendren, 2021). Examples of the ADLs that have a crucial role in the transition include self-feeding and self-dressing skills, communication skills, community mobility and transportation, and household management (Wehman et al., 2015). As experts in ADL performance, OT can improve occupational performance in ADLs and other skills needed for employment. To improve ADL performance in self-care tasks, OT may educate the client on expected standards of hygiene and appearance in professional workspaces

(Cleary & Persch, 2020). Another important skill in the workplace is communication which may be enhanced by educating the client on how to advocate for their needs and modifications, and how to carry on a conversation with peers (Cleary & Persch, 2020). Transportation and community mobility are often a barrier to becoming employed and can be improved by education in navigating public transportation systems and routes, as well as driving skills (Cleary & Persch, 2020). This education and skill development is done by using activity analyses to understand the components required for an activity, then OT strategically matching the demands with the skill level of the client (Cleary & Persch, 2020). OTs also provide environmental modifications or activity adaptations to support the individual and improve success in the activity.

OT uses client-centered care as the primary mode of therapy, as evidenced by the OT Practice Framework (American Occupational Therapy Association). Since OT is client-centered, no treatment can occur without the client physically being present. This may eliminate barriers that occur during IEP meetings without the student attending. The ability to self-advocate is a large contributing factor to a student's success after graduation and being able to advocate for their services (Mankey, 2014). OT develops self-advocacy skills so that the client can effectively communicate their wants and needs to others. It is also important to note that paid employment, post-secondary education, and independent living are not priorities for all students with disabilities (Hendren, 2021). Meaningful occupations are unique to each individual and require having perspective and understanding of personal values (Hendren, 2021). Depending on the student's level of disability and their families' concerns, having secure housing, adequate health care, and social connection may be their priorities instead of paid employment (Hendren, 2021). OTs are trained to provide care based on what the client's goals are and what is meaningful to them.

OT is not the primary service provider in transition planning, as only 16% of OTs in school-based settings report working with adolescents in the transition phase of high school (Cleary & Persch, 2020). Barriers preventing OT from being a primary provider in the transition plan are largely funding and reimbursement (Mankey, 2014). Another barrier to OT involvement is the perspectives and knowledge of the school staff and administration (Cahill & Bazyk, 2020). It is reported that school staff are not aware of the scope of practice OT has and what the service can offer students at this stage in life (Cahill & Bazyk, 2020). When included in routine transition planning, OT can assist with assistive technology, community integration, paid employment, and health maintenance (Mankey, 2014).

In conclusion, poverty and education are key social determinants of health (Bonuck & Hill, 2020), which places a great value on post-secondary transitions to prepare students with the tools necessary to be successful. Post-secondary transition plans are crucial to the well-being and quality of life of individuals with disabilities. Currently, this population is not adequately represented in the workforce despite having the skills required for employment (Lindsay et al., 2016). OT can assist in narrowing the gap in the workforce for individuals with disabilities by providing client-centered care to develop self-advocacy and work skills required for their post-graduation plans. Under the IDEA, OT is a service that is covered and should be utilized for high school students with disabilities during transition planning. Despite the law requiring services to be provided, OT does not have a prevalent role in this transition (Cleary & Persch, 2020). OTs are skilled in increasing the independence of students with disabilities by utilizing client-centered care to develop their skills in ADLs and facilitating their transition in securing paid employment, post-secondary education, and independent living.

#### **Needs Assessment**

Project SEARCH is aiming to fill the gap in services that disabled students typically experience after graduating from high school. They are easing the transition into adulthood by providing students with work and life skills to achieve their highest level of independence. To understand the needs of SPS, I spoke with class instructor Brooke Locher and discovered more about the program. The outcomes identified from the needs assessment are described below.

#### **Strengths**

Identified strengths of SPS included the extensive and immersive work experience students gain while also receiving training on instrumental activities of daily living such as home and health management, community mobility, budgeting, and meal planning. SPS has been partnered with MSU for six years, providing reliable internship sites and relationships with supervisors around campus. Having this rapport established on campus provides the students with excellent opportunity and a safe environment to learn in. Students have also been using reasonable accommodations such as visual schedules, environmental modifications such as timers, alarms, and noise-cancelling headphones while completing internship tasks. Finally, the most important strength of the program is expecting and facilitating independence by the end of internship rotations and graduation.

#### Weaknesses

Weaknesses identified were adequate funding for skills trainers, resources for interactive learning, students' intrinsic motivation, emotional regulation and interoception skills, and internship site training. Many weaknesses currently stem from funding and resources negatively impacted by the COVID-19 pandemic beginning in 2020. Previously, SPS was supported by two work skills trainers for seven to twelve students each year. After funding allocations were re-

distributed, they were provided one skills trainer to monitor all the students in the program. Inevitably, direct support for students on their job sites was impacted, putting more pressure on the students to perform and the skills trainer to prioritize student needs. Additionally, it was observed that students were not integrating classroom lessons into their daily lives on topics including money management and strategies for physical and mental health. These deficits intensified the need for intrinsic motivation to complete tasks independently and emotional regulation skills. Finally, it was observed that new internship sites and supervisors often did not have experience working with this population and therefore required additional training on the expectations of students in the program and their skill levels.

#### **Opportunities**

Opportunities identified were the potential for new internship sites around campus, enhancing the classroom lessons to become more interactive, facilitating active use of workplace adaptations, and encouraging the intrinsic motivation of students to complete work tasks. To increase carry-over of skills into their daily life, there was a potential to enhance the classroom lessons to become more interactive and realistic providing concrete examples of these skills. To increase the active use of environmental adaptations, there was the potential to make them more meaningful to the student and unique to their skills. Capitalizing on intrinsic motivation and creating meaningful adaptations could potentially increase adherence to these resources.

#### **Threats**

Threats identified included funding for the program and additional state-funded resources, host site space and accommodations, public transportation options for rural communities, and OT being utilized within high school students IEPs. SPS currently has adequate funding for baseline operations, however, to enhance the current experience of students

in the program, more funding is required. Since the students are enrolled in high school, most travel to MSU by school bus, however, that resource will not be available after they graduate. Few local public transportations services travel to the rural communities, limiting some students' opportunities for future employment locations. Finally, the largest threat to this transition program is the lack of OT involvement in their IEPs. Any services required by their IEP, like speech therapy for example, are continued into the classroom setting in the program. OT has a role on this team, but it is under-utilized in this setting across the board. This may be due to the misunderstanding on the scope of practice for OT.

#### **Objectives Achieved**

In addition to the standardized objectives for doctoral students, the long-term goal of this DCE was to improve the work skills, self-advocacy, and independence of the students enrolled in the Spartan Project SEARCH program. This was completed through a series of individualized student objectives that are listed below with information supporting the completion of each objective. Due to the nature of this program and timeline of students rotating through internship sites, all objectives were created to be addressed as needed throughout the 14-week experience.

Individualized Student Objective 1: Student will informally meet with each intern to gather information on their perspective of job performance skills, accommodations, and personal goals throughout the 14-week experience.

One of the biggest challenges identified through the needs assessment was the intrinsic motivation of students to take initiative and complete tasks accurately and efficiently at their internship. With the knowledge of The Model of Human Occupation (MOHO) and the understanding that individuals have an innate desire to master tasks and occupations (Keilhofner

& Burke, 1980), the purpose of this objective was to understand the student's perspective of their performance and areas for improvement. Through organic conversations with students, I gained valuable insight on their perspective of how they were performing at their internship and any areas they would like more support in. Frequent concerns students voiced included recalling the sequence of tasks and what to do during "down-time", multi-tasking, and approaching conversations with their site supervisors. Once the student identified challenges they were experiencing, it allowed for collaboration on potential solutions and different ways to approach the task. By targeting the students' own volition and personal challenges, tasks became more meaningful and increased their awareness on occupational performance at work. Facilitating frequent dialogue with peers and skills trainers provided an opportunity for students to reflect on their experience and provide input in a low-stake environment.

Individualized Student Objective 2: Student will use activity analysis to identify physical and cognitive barriers to interns completing tasks correctly and efficiently for maximum independence completing their internships throughout the 14-week experience.

The purpose of objective two was to use skilled analysis of the workplace environment and required work tasks to identify barriers to students' independence at their internship. As identified in the needs assessment, SPS has one skills trainer to assist all seven students daily, which impacts the amount of direct support they each receive. To decrease the demand on one skills trainer, support was provided by identifying the needs of students and creating solutions. Typically, each student was observed working three times per week while monitoring work skills and informally documenting their efficiency and level assistance required. For example, how many minutes it took a student to clean an academic hallway, how many chairs were missed when organizing the library furniture, or how many cues they required to recall the sequence of

washing and sanitizing dishes were tasks observed and monitored. This provided a baseline of skills to monitor weekly progression and barriers towards independence.

Through clinical observation, physical barriers included fine motor control, general physical activity tolerance, and physical height challenges. Fine motor control was observed to be difficult during tasks such as tying work boots and shoes, tying work uniforms including aprons and scrub pants, and food preparation cutting vegetables and folding wraps. Activity tolerance was noted to be difficult at internship sites that included extended periods of standing, walking, or light physical activity such as sweeping and vacuuming. Finally, physical height differences of students who are shorter than average impacted their ability to access tools in the environment. One student stands shorter than average and due to this they had difficulty reaching tools hung on a wall, into a sink to wash dishes, and into laundry bins and machines to retrieve clothing items.

Cognitive barriers identified included visual perceptual skills such as discrimination, spatial awareness, visual memory, sequencing, and emotional regulation. Many internship tasks inevitably include the cleaning and organization of items, which displayed deficits in visual discrimination and visual memory. Students had difficulty recognizing silverware that had not been cleaned thoroughly, identifying dusty areas to sweep, and recalling what shelves hold specific dishes. One of the biggest challenges for students was sequencing and prioritizing required tasks. When simultaneously cleaning dishes, catching up on laundry, and sweeping research hallways, it was common for students to become immersed in the task at hand and overlook tasks that were also going on in the background. Finally, students are experiencing a large transition in their lives with a shift toward independence. The unknown may have created internal conflict within the students and portrayed itself in frustration and emotional outbursts.

The following objective states strategies utilized to support these barriers and skills deficits in the workplace.

Individualized Student Objective 3: Student will provide direct support to interns at work through prompting, modeling, and verbal feedback on job performance for maximum independence completing their internships throughout the 14-week experience.

The purpose of objective three was to provide skilled support at internship sites based on the physical and cognitive barriers identified. This was completed utilizing a top-down approach, using the work task as an opportunity to practice and learn new skills. The physical barriers identified and addressed on-site of the internship included fine motor control and physical height differences.

Fine motor control deficits were supported within the workplace through modeling and prompting. Breaking down the task using backward chaining with explicit cues on hand placement allowed students to successfully assemble a sandwich wrap and use a knife to safely cut vegetables. Difficulties tying shoes, aprons, and scrubs were addressed by teaching new adaptive techniques to tie shoes and repetitive practice and modeling tying clothing items. When needed, students received additional support in the classroom to support these fine motor skills.

Physical height challenges were addressed at the internship site through environmental modification. Simple adaptations including step stools and positioning changes were used to improve accessibility of the environment. Difficulty reaching laundry in the bottom of a 32-gallon bucket was modified to tilt the bucket on an angle where the student had improved ability to reach further. A closet shelf was rearranged to place the most used items on a shelf easily accessible and items used less frequently on a shelf accessible by step stool.

The cognitive factors identified included visual perceptual skills, sequencing, and emotional regulation which were supported in the classroom and at internship sites. Visual perceptual skills including visual memory and sequencing were supported at internship sites using visual schedules. Creating meaningful visuals that students were more likely to use at their internship improved student's independence and ability to navigate various floors and hallways of the library and academic halls. Placement of the visual schedule in a functional location was also crucial to the student using it. In the library the student is frequently traveling between ten different floors, so their visual card was made into a pocket-sized booklet that they could clip to their shirt and have easy access to. The visuals created for this student are in Appendix B.

Due to the nature of this program, students are frequently encouraged outside their comfort zone learning new tasks and taking on new responsibility. This can foster internal conflict within themselves with wanting the increased independence, however, becoming overwhelmed at times. Co-regulation strategies were used at internship sites to help students cope with these new experiences and feelings. Using neurodiversity affirming practices and validating the students' experiences while providing them with the space to grow demonstrated a decrease in emotional outbursts in the classroom. The following objective states how this support was continued in the classroom setting.

Individualized Student Objective 4: Student will develop and lead at least 3 interactive group activities for interns to promote their health and improve physical and cognitive skills required for work tasks throughout the 14-week experience.

The purpose of objective four was to use a bottom-up approach to improve the identified physical and cognitive barriers within the classroom setting. The physical barrier supported within the classroom was physical activity tolerance. Students reviewed ways to move their body

and benefits of how it can improve their mood and energy levels. Then, to provide a concrete example and practice improving their energy levels, they participated in a five-minute exercise routine. The exercise routine was created for students to complete while sitting in their classroom chairs to improve accessibility and allow them to complete at home or their internship site. Each exercise was modeled with verbal cueing, then completed for one-minute each. All exercises began sitting up tall in their chair, arms at their sides, and feet flat on the floor to promote active use of their core. The routine incorporated their full body using their legs, arms, core, and completing sit-to-stand movements. After finishing this short exercise routine, students verbalized and demonstrated increased alertness before starting their internship for the day. In addition to this classroom exercise routine, three additional exercise flows were created as classroom resources for the program. To prevent space, equipment, and resources from being a barrier to exercise, these were created to be completed in the classroom, at home, or internship site. The lesson and activity created for exercise and movement can be found in Appendix C.

The cognitive barriers supported within the classroom included visual perceptual skills and emotional regulation. In addition to visuals created for internship sites, classroom activities were created to enhance visual perceptual skills from a foundational level. After reviewing the importance of the visual system and the role it has in completing daily tasks, the students completed online activities highlighting the different areas of visual perception. Activities included identifying the differences between two similar photos, matching shapes rotated in various directions, identifying an object with half missing, and selecting the correct orientation of cars. Card activities such as "Spot It" and "Blink" were also used to facilitate speed of information processing, form constancy, discrimination, and visual memory. The lesson and activity for visual perceptual skills can be found in Appendix D.

An interactive activity was used to learn interoception skills and break down the components of mindfulness and self-awareness that allowed the students to have a concrete example of practicing these skills. The activity was modified using strategies from "The Interoception Curriculum" by Kelly Mahler (Mahler et al., 2022). As a class, students were asked to participate in a series of activities focusing on their hands and feet, then reflect on how their body felt, all were completed for about 30 seconds. Activities for the hands included rubbing their hands together quickly, holding a strong fist, and strongly clapping. Activities for the feet included rubbing their feet against the carpet, curling their toes, and stomping their feet. Following the activities students were encouraged to focus on that body part and identify how it felt. Since some students may have had difficulty identifying the language to describe these sensations, descriptor words such as fast, slow, hard, wiggly, fuzzy, tough, sweaty, and jumpy were provided as examples. Students were challenged to notice their hands or feet while at their internship and observe the sensations felt while completing tasks such as washing their hands, chopping vegetables, pushing a broom, or climbing stairs. This practice was used to provide students a concrete example of what mindfulness means and how to be aware of what their body is feeling. Students were educated on the importance of listening to their own body to identify harder emotions such as feeling stressed, scared, angry, or sad. The lesson and activity created for interoception can be found in Appendix E.

Individualized Student Objective 5: Student will increase the independence of interns' IADL skills including community mobility, financial management, and self-advocacy skills throughout the 14-week experience.

The purpose of objective five was to promote the student's independence in their natural environment at home and facilitate carry-over of the skills they have gained from SPS. The

unique nature of this program requires students to rely on public transportation and walking independently around campus using their cell-phone navigation or other maps. This increases the responsibility on the students while also improving their independence in community mobility. This is a transferrable skill that may be used after graduation when they need to utilize public transportation to get to their place of employment. To ensure students master this skill, SPS places an emphasis on teaching bus routes and navigation to allow students to have that freedom. Upon my arrival to the program, many students had already been exposed to traveling independently during their first and second internship rotations. However, while traveling with students to their internship sites, I was able to support them with making decision on what bus stops to get off, when to pull the stop signal, and proper transportation etiquette.

Financial literacy and management also proved to be a difficult area for students to manage independently. Although they receive lessons on budgeting and money management, it appeared the students did not carry these concepts into their own practice. Many students in this group received monthly allowances from their guardians and would frequently make purchases on snacks, pop, candy, or toys from the convenience stores around campus. An interactive budgeting workbook was created to provide a concrete example of how a monthly budget works and how to incorporate it into their daily lives. To make this activity more meaningful, students identified an item they would want to purchase this month to save for. Students reviewed definitions of income and expenses, as well as what would be considered a "want" or a "need" to spend their money on. At the end of each day, students tracked how many hours they worked at their internship. The maximum number of hours per day was four, however, if students left early for doctors' appointments, poor performance, or did not attend due to being sick, that was reflected on their hours log. Students "earned" an imaginary income of \$14 per hour, roughly

equivalent to minimum wage and what they could earn once employed after graduation. In the workbook, students calculated their weekly income based on how many hours worked. While tracking their income, students were also encouraged to track their expenses including lunch and snacks, new video games, clothing items, and other items purchased at home. In addition to these "want" items, students tracked monthly "need" expenses they would be responsible for if they pursued independent living options. Students were charged realistic renting fees, phone bills, grocery bills, Wi-Fi, and video streaming services that were frequently used. Including the monthly expenses that are completed in the background, typically by their guardians, students were able to calculate these items and see how quickly it impacted their savings goal. At the end of the month students calculated their total amount saved and identified whether they would have been able to purchase their goal item or not. If not, students reflected on what items purchased in their "want" expenses could have been saved for instead. Students started the next month's budget workbook with this information in mind and modified their goal accordingly to meet their needs. The budgeting workbook created can be found in Appendix F.

Many internship sites with SPS have been working with the program for many years and understand the skills the students enter with as well as their great potential. However, during the students third rotation there were new internship sites added. While assisting students at the new sites, I observed more caution and hesitation from their internship site supervisors with understanding the skill level of the students. As this is expected from anyone who has limited experience with neurodivergent individuals, there was room for additional training and understanding of expectations of the interns. Supervisors frequently asked, "Can the intern do this?" referring to tasks such chopping vegetables, taking out the trash, and using power tools (under direct supervision). Internship sites interview each student prior to them beginning and

receive an updated resume, however, there was a need for additional training and onboarding for the supervisors as well as more information on the student themselves. After collaboration with a new internship site supervisor, a student profile was created to provide to site staff with information on the student's hobbies, their life goals, how they learn best, what skills they want to improve, how they best receive feedback, and a photo of them. Understanding the student's personal goals and what skills they would like to improve is helpful for the staff to know where to encourage and raise expectations on task completion. For example, if a student's goal is to live independently, the site may focus more on their independence completing tasks related to cleaning, organization, and management of dishes and laundry. It is also important for the site to know what skills the student hopes to gain from this experience. If a student wants to improve their time management, a site can place more strict rules on break times or task timelines. Finally, understanding the student's learning style can be helpful for the staff to understand that they may not have constant eye contact, they may need to don headphones, or they may need additional verbal cueing or reminders. Ultimately, the best way for employers to understand "how" to work alongside neurodivergent individuals is for them to be immersed in the experience. The student profile created can be found in Appendix G.

#### **Implications of Capstone**

This DCE impacted SPS by providing a new perspective through the lens of occupational therapy. It reinforced the need for OT to be present at the foundational level within transition programs to provide direct support to students and collaborate with instructors. The resources, guides, and templates created to address foundational pre-vocational skills were provided to SPS and encouraged to use for future students. The guides were created in a way to educate instructors on these topics while also being user-friendly to use as activities for the students. As

stated in the literature review, it is known within this community that there is a significant decrease in services after a student exits the public education system. This places the additional responsibility on the guardians to navigate the system and secure independent or community-based housing, transportation methods, benefits, and employment accommodations. To decrease the effects felt from the decrease in services, these resources were created to improve the carry-over of learned skills into the student's natural environment.

While working with the seven students in SPS, I observed a range of feelings and emotions verbalized by the students regarding their graduation. Students were excited to leave school, but apprehensive about finding employment. They wanted independence but were anxious to leave their comfort zone. Students were seeking control over their life during a period of unknowns. The transition out of high school is a shift in their entire world and their identity. No longer are they going through the motions of school with their peers, they are being asked to enter a world of insecurity. Students with disabilities deserve adequate resources, training, and support to complete this transition into adulthood. The students within Project SEARCH demonstrate their great potential to achieve independence when provided the opportunity to learn. Using the full scope of practice, OTs are skilled in addressing independent living including home and financial management, work skills and adaptations, and physical and mental health.

OTs are being under-utilized in IEPs for high school students with disabilities, especially during transition planning. A major theme throughout this DCE was advocating and educating instructors on the large scope of practice OT has and how it can improve outcomes for students graduating. OTs are skilled in improving independent living skills, pre-vocational work skills, emotional regulation, and health management, all skills that are required for a student's life after graduation. Having these foundational skills allows students to enter the workforce, independent

or community-based living, and manage their own health needs with maximum independence. Recommendations for future work with Spartan Project SEARCH include developing in-depth trainings to provide to internship sites working with neurodivergent students and realistic expectations for them. Additionally, developing a method to collect specific data on students' work skills to monitor their growth and independence which may be beneficial in supporting intrinsic motivation and preventing a plateau in performance.

The impact of students with disabilities entering the workforce and gaining independence not only improves their quality of life but extends to their workplace and community. Increasing representation in the workplace demonstrates to the public the great skill they have and their ability to achieve competitive employment. By encouraging and celebrating neurodivergent individuals participating in competitive and integrated work settings, the diversity, equity, and inclusion in the local community is improved. OT can fill the need for services post-secondary school and assist in students integration into these settings.

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## **Appendices**

Appendix A: Table of SPS Internship Sites January – June 2023

Appendix B: Visual Schedules

Appendix C: Exercise Group Activity and Lesson, additional Classroom Flows

Appendix D: Visual Perception Group Activity and Lesson

Appendix E: Interoception Group Activity and Lesson

Appendix F: Budgeting and Financial Management Group Activity and Lesson

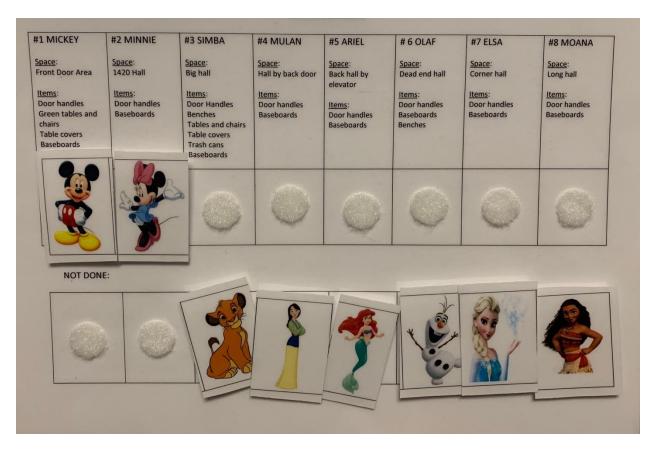
Appendix G: Student Profile for Future Employer

**Appendix A**Spartan Project SEARCH Internship Sites January – April 2023

Internship Site	Primary Student Responsibilities
Bio Medical Facility	<ul> <li>Cleaning and sanitization of academic hall</li> <li>Clean all door handles and dust baseboards of hallways</li> <li>Clean study tables and chairs</li> <li>Collect and dispose of trash</li> </ul>
Linen Facility	<ul> <li>Fold and organize linens</li> <li>Adhere to strict protocols for folding presentation</li> <li>Prepare linens to be shipped around campus</li> <li>Assemble linens to be placed on machines</li> </ul>
Case Dining Hall	<ul> <li>Prepare and serve food to students</li> <li>Chop vegetables, make pizzas, assemble wraps, cook burger patties</li> <li>Clean tables and chairs</li> </ul>
Library	<ul> <li>Organize library furniture</li> <li>Push in chairs at tables, re-arrange tables to original places</li> <li>Collect misplaced books</li> <li>Scan in paper books to create accessible eBooks for students</li> </ul>
Sparty's – Campus Convenience Store	<ul> <li>Stock and organize shelves</li> <li>Manage the cash register and cash out customers</li> </ul>
Credit Union – MSU FCU	<ul> <li>Organize and alphabetize documents</li> <li>File documents away</li> <li>Maintain professional behavior and communication with clients and co-workers</li> </ul>
Roofing/Infrastructure Department	<ul> <li>Adhere to safety guidelines working with power tools and working on construction sites</li> <li>Direct supervision to check for and repair leaks in roofs around campus</li> <li>Direct supervision and mentorship completing miscellaneous jobs around campus repairing infrastructure</li> </ul>
Carpentry and Machine Shop	<ul> <li>Adhere to safety guidelines working with power tools and working on construction sites</li> <li>Clean the woodshop by sweeping sawdust</li> <li>Direct supervision and mentorship learning how to use power tools while making repairs around campus</li> </ul>
Center Animal Research	<ul> <li>Maintain research sanitization standards washing animal dishes and doing laundry</li> <li>Sweep hallways and animal kennels</li> <li>Take out trash and recycling</li> </ul>
MSU Power Plant	<ul> <li>Monitor the front desk and receive packages</li> <li>Receive phone calls</li> <li>Scan documents into the computer and organize files</li> </ul>

## Appendix B

## Visual Schedule for Biomedical Facility



Visual Schedule for Library



## Appendix C

#### Exercise Routine for the Classroom













#### **Additional Classroom Flows**



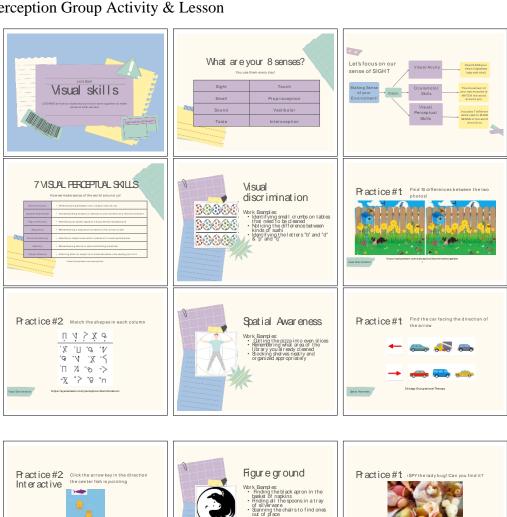




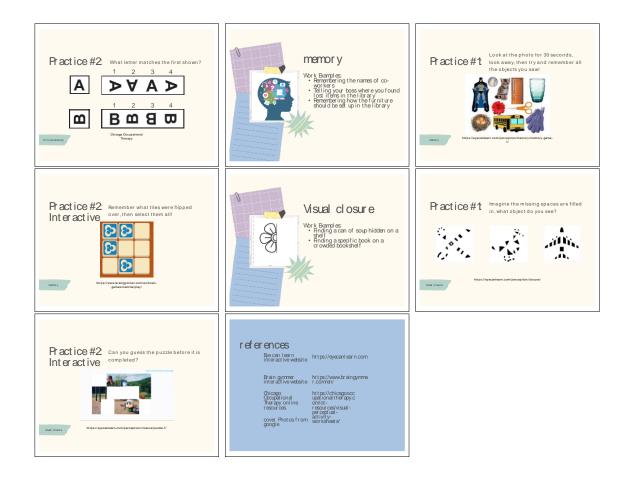


#### Appendix D

## Visual Perception Group Activity & Lesson







feel now? Maybe... soft

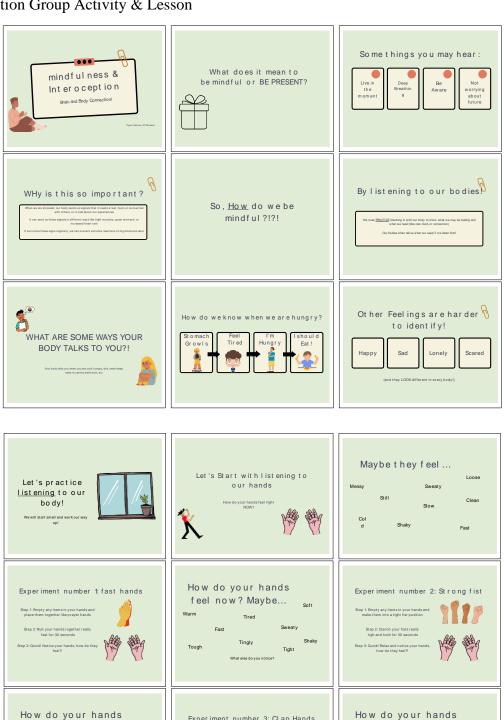
Tell me more about what that

Rubbery Tired Tight

Tough

#### Appendix E

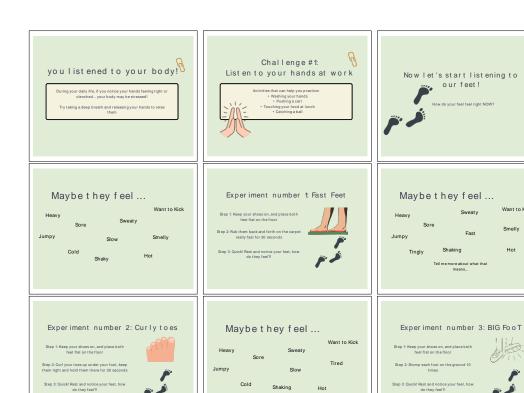
## Interoception Group Activity & Lesson

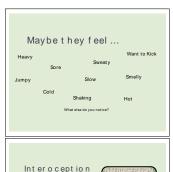


Experiment number 3: Clap Hands

feel now? Maybe... soft

Shakv







you list ened to your body!



Smelly



#### Appendix F

### **Budgeting Workbook**



## My Book Guide

Income: The money you make from working, your allowance, gifts, etc.

TOTAL Income: Add up the money you earned during the entire month

Expenses: The money you spend every day on food, games, clothes, electronics, etc.

TOTAL Expenses: Add up the money you spent during the entire month

"NEED" Expenses: Items you MUST have to survive daily. Examples: groceries, gas, phone bill, rent

"WANT" Expenses: Items you WANT for convenience or entertainment. Examples: Fast food, extra clothes, electronics, movie subscriptions

## **HOURS LOG**

MONTH: \_\_\_\_\_\_ Track the hours you have worked here!

1				
2				
3				
4				
5				



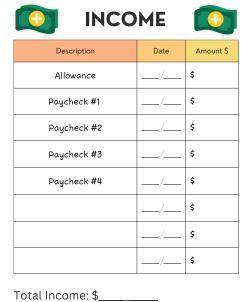


Spartan Project SEARCH hourly pay: \$14 per hour

#### Week

**1** Hours: \_\_\_\_\_ x \$14 = \$\_\_\_\_

**2** Hours: \_\_\_\_\_ x \$14 = \$\_\_\_\_



<b>EXF</b>	PENS	SES	
Description	Date	Amount \$	Need or Want
Netflix/Disney+		\$	N or W
Phone Bill	-/-	\$	N or W
Lunch		\$	N or W
Snack		\$	N or W
Rent		\$	N or W
Groceries		\$	N or W
Wi-Fi		\$	N or W
		\$	N or W
		\$	N or W
	/-	\$	N or W
		\$	N or W





## Appendix G

HIGH SCHOOL: GRAND LEDGE HS

Student Profile for Future Internship/Employer

TA	YLOR NICOL	AGE: 26			
Sales of the sales	Spartan Project SEARCI MICHIGAN STATE UNIVERSITY	H	PREVIOUS JOB SITES: LINENS, SPARTY'S, BIOMED FACILITY		
I LIKE	TO: EI	MPL	OYMENT/LIFE GOALS:		
	Watch MSU basketball		I want to get better with time management so I can get a job at celebration cinema after I		
	Go swimming		graduate.		
	Walk my dog		After I graduate I want to move into a group		
	Read comic books		home with my friends.		
<b>LEAR</b>	•	vhen	I can watch a demonstration of a new task		
П	before I try it for the first time. I may need a few verbal reminders of	of the	e order of steps.		
	·	rwh	elming to me, and I need to take a quick break and		
I WA	NT TO IMPROVE THESE SKILLS:				
	Communication skills with co-worke	rs			
	Completing a task with quality work				
	Time management getting back to work on time after lunch break				
	Doing more chores at home like laundry and sweeping				

#### FEEDBACK:

- ☐ Clear expectations are helpful, so I know exactly what to do
- ☐ Please let me know at the end of each week what I can focus on improving for the next week

