Occupational therapy sensory learning in developmental education program (OT SLIDE) : a program development plan

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Occupational Therapy Sensory Learning in Developmental Education Program (OT SLIDE):

A Program Development Plan

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Note: This document describes a Capstone Dissemination project reflecting an individually planned experience conducted under faculty and site mentorship. The goal of the Capstone experience is to provide the occupational therapy doctoral student with a unique experience whereby he/she can demonstrate leadership and autonomous decision-making in preparation for enhanced future practice as an occupational therapist. As such, the Capstone Dissemination is not formal research.
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Executive Summary

The ability to appropriately integrate and process sensory information is vital to being successful in academic settings. Roley, Blanche, and Schaaf (2001) stated that normal sensory integrative abilities provide the foundation that enables individuals to participate in meaningful and purposeful occupations of daily living. Sensory integration theory assesses and takes into account the dynamic interactions between an individual’s developmental structure and how they are able to interact with their environment (Ayres 1972a; Ayres 1972b).

The Monroe County Intermediate School District Educational Center is operated for individuals that have educational certifications of Autism Spectrum Disorder (ASD), Moderate Cognitive Impairment, Severe Mental Impairment, and/or Severe Multiple Impairment. The Monroe County Educational Center believes that all students can learn and pursue personal success. At the Educational Center, individuals with developmental disabilities engage in occupationally embedded schoolwork. However, there is a need at the Educational Center for a program that provides increased meaning into the daily routine of the students and helps them organize sensory input.

Researchers from the Centers for Disease Control and Prevention (CDC), in collaboration with researchers from the Health Resources and Services Administration (HRSA), conducted a study analyzing the prevalence of developmental disabilities in The United States from 1997-2008 and found that nearly 1 in every 6 children have a developmental disability.

Therefore, the goal of the Occupational Therapy Sensory Learning in Developmental Education (OT SLIDE) program for children with developmental disabilities at The Monroe County Intermediate School District Educational Center is to organize sensory input and increase engagement in occupationally embedded classwork. The Short Sensory Profile, the Sensory Profile-School Companion, and the Sensory Integration Inventory-Revised will be utilized to assess the students’ abilities to organize sensory information and identify the types and frequencies of negative behaviors being displayed by the students.
Introduction

The goal of the Occupational Therapy Sensory Learning in Developmental Education (OT SLIDE) program for children with developmental disabilities at The Monroe County Intermediate School District Educational Center is to organize sensory input and increase engagement in occupationally embedded classwork.

Definitions

- Sensory input: information perceived from the environment through the five senses of sight, hearing, touch, smell and taste. Sensory input also includes information received from the vestibular and proprioceptive senses which are very important for understanding where one’s body is in space, whether or not one is balanced, and how one is positioned in relation to gravity.

- Engagement: active involvement in a task. Engagement in occupation aids in the development and maintenance of health (Baum & Law, 1996).

- Occupationally embedded classwork: At the Educational Center, classes are not designed the same as classes in a typical public school. The classes that the students engage in are oriented toward learning occupations of daily living in addition to basic academic skills. Occupationally embedded exercise is a central idea of occupational therapy and research has shown that it often results in significant better results than rote exercises (Nelson et al., 1996).

Program site

The Monroe County Intermediate School District (MCISD) is a regional educational services agency that consists of nine constituent public school districts, two charter schools, and 15 non-public schools. The MCISD serves as a link between local districts and the Michigan
Department of Education in order to ensure that specialized education services and resources are being provided to those in need. Individuals in Monroe County are provided with the necessary services designed to help them succeed in their lives from birth through the age of 26. Their mission states: The Monroe County Intermediate School District (ISD) promotes educational excellence by serving in a visionary leadership role to collaborate and facilitate improvement of school programs and services. These efforts will be driven by pertinent research, continual assessment of needs, and coordination of community resources. As a result, county students will be prepared to live, learn, and work in an ever-changing world.

In addition to the special education services provided in the local districts, the MCISD operates The Educational Center for individuals with complex developmental disabilities. The 123 students at the Educational Center have educational certifications of Autism Spectrum Disorder (ASD), Moderate Cognitive Impairment, Severe Mental Impairment, and/or Severe Multiple Impairment. The Educational Center provides services to these individuals from the nine local districts of Monroe County. The Monroe County Educational Center (MCEC) believes that all students can learn and pursue personal success. The staff, in partnership with students, their families, and community members, provides educational opportunities that promote learning, growth, and the pursuit of appropriate life goals.

The MCISD provides excellent educational services to students in Monroe County and they utilize sophisticated, specialized, and often costly services on an individual basis when necessary. In order to ensure the efficient operation of such a larger agency, there is an organizational hierarchy that displays the organization of those involved in the educational services (see Appendix A for the organizational chart). The occupational therapist needed to facilitate the SLIDE program at the Educational Center is identified by * on the organizational
chart in Appendix A. The occupational therapist to be hired will be categorized in the “therapists” portion of the organizational chart and will be responsible for responding directly to the principal of the Educational Center.

The typical day for a student at the Educational Center is focused around learning functional living occupations that will help the student in everyday life. The day is designed like a normal school day but instead of having classes like history or biology, they work on functional occupations. For example, the lunch period is designed to be treated like a class in order to teach the students proper etiquette and efficient eating techniques. It is also an excellent time to target social interaction and interpersonal skills. Therefore, the Educational Center attempts to incorporate various occupations into their curriculum so that the students, if they are capable, can participate in various things.

The Educational Center also provides occupational, physical, and speech therapy services for the students. The typical delivery of occupational therapy involves one-on-one intervention, consultation with teachers, and small play groups emphasizing play skills and the social interaction. The idea of utilizing “push-in” therapy services in which the occupational therapist enters the classroom and assists the student during his or her typical day has been attempted. However, the occupational therapists at the Educational Center state that the students benefit more from a one-on-one delivery due to the over-stimulation that often occurs in the classrooms. It is more effective to target the needs of the students by working one-on-one in a controlled environment (i.e. occupational therapy room) than it is to try and target them in the classroom. Therefore, “pull-out” occupational therapy services are the most commonly used technique for treating the various needs of the students at the Educational Center.
Identify Need

A semi-structured interview was conducted in a private room at the MCISD Educational Center (see Appendix B for questions asked during the interview). Lisa Cielinski, OTR/L, had typed in answers to the questions that were sent to her in advance. During the interview, she elaborated on the answers she had typed. When conducting the semi-structured interview with Lisa Cielinski, OTR/L, a discussion about occupational therapy was conducted. Lisa has been an occupational therapist for 24 years, so she had a very clear understanding of what occupational therapy is and how it is implemented. We went into depth speaking about how occupational therapists utilize sensory strategies in throughout treatment sessions and the potential benefits coupled with these strategies. She stated that often people become convinced that sensory integration techniques will be the cure-all for their child, and then when the child is not demonstrating immediate improvement, they abandon the sensory strategies for a different, more behavioral approach. We also spoke about how occupational therapists target the various sensory systems and the effects therapy can potentially have on an individual.

According to Lisa, the employees at the Educational Center have voiced various concerns about their students. She states that the therapists’ main concern is that the students are not getting enough active movement in their day. In some classrooms, they have noticed that the students spend the majority of their day stationary and uninvolved. Therefore, a sensory program that incorporates active movement in the students’ day would have great support at The Educational Center. She also states that some of the teachers are uninformed as to creative sensory techniques that could help their students remain involved for longer. This shows a need for educating the professionals at the facility in sensory strategies that are creative and fun for the students. When discussing the feasibility of a sensory learning program, Lisa and Shawn state
that they think it is feasible and that the interest from other members around the Educational Center is present. Lisa states that the physical education teacher, behavioral consultant, and several teachers are interested in such a program. The therapy staff hopes that the sensory program could help meet the unmet needs at the Educational Center by providing interactive learning occupations for the students to play. The Educational Center is an ideal location for the implementation of such a program because it affords classrooms, equipment, a gym, and other valuable resources that can contribute to such a program.

In addition, when speaking with Lisa, a question concerning whether or not a program of this nature lends the opportunity to help the students engage in meaningful occupations. She said that any program that aims to help the students better attend in their classrooms throughout the day achieves this aim. By aiding the students with their sustained attention skills and making them more ready for learning, they will be more capable of working on whatever tasks the teacher designed for the day. Due to the fact that the population being served cannot always voice their interests, observation and inference must be used to discover what the students find meaningful and entertaining throughout the process of designing this program. The need for providing structured and efficacious occupations to the students was voiced by both occupational therapists.

Semi-structured interviews were also conducted with the special education teachers in charge of the Severe Cognitive Impairment (SCI) and Moderate Cognitive Impairment (MoCI) classrooms (see Appendix C for the instrument used to interview the special education teachers). The SCI classrooms contain children that are considered severely cognitively or multiply impaired. In other words, the students may have a physical impairment in combination with a cognitive impairment. For example, a student may be diagnosed with cerebral palsy and a
cognitive impairment. In regard to overall functioning, the SCI classrooms are considered the lowest. The MoCI classrooms contain children with moderate cognitive impairments. The students may or may not have a comorbid condition such as autism, cerebral palsy, or a different physical or neurological condition in addition to their cognitive deficit. The MoCI students are considered higher than the SCI students in terms of overall functioning.

The SCI classroom teacher provided helpful information in regard to the everyday routine that occurs in her classroom and the needs that exist in her classroom. The students in the SCI classroom do not have appropriate play skills and often sit idle for long periods of time due to the severity of their impairments. She noted various negative behaviors that are exhibited by her students on a daily basis. Therefore, after being explained the definition of sensory integration and provided with possible sensory strategies, she was in favor of using a sensory program to help her students make adaptive responses and become more organized throughout their day. In addition, she stated that a program that reinforces the educational curriculum would be beneficial due to the recent emphasis that administrators have placed on achieving educational goals.

The MoCI classroom teacher also provided useful information concerning the daily functioning of her classroom. The students in her classroom display more maladaptive behaviors than those in the SCI classroom. Classmates often learn negative behaviors from one other causing stress on those working in the MoCI classroom. The MoCI teacher stated that the biggest need in her classroom is for there to be fewer students in her classroom. Eleven students with various diagnoses including autism, emotional impairment, obsessive-compulsive disorder, and cognitive impairment are all stationed in her classroom. She states that the large number of students creates a barrier to consistent learning. Several students exhibit negative behaviors during the classroom lessons, which distract other students. Therefore, she stated that the
students would benefit most from learning opportunities in smaller classroom settings where the students could receive more direct instruction. In addition, she voiced interest in obtaining more information regarding useful sensory strategies and said that parents would be interested in strategies to utilize with their children at home.

The teachers were also asked about their thoughts and opinions on the use of response to intervention strategies and “push-in” or “pull-out” therapy services. According to the National Association of State Directors of Special Education, Response to intervention is the practice of providing a high quality instruction/intervention matched to student needs and using learning rate over time and level of performance to make important educational decisions. Unlike traditional education, this data-based, problem-solving approach does not assume that the learning or behavioral problems lie within the student, but instead RtI looks first at the curriculum and how it is being taught. McMaster and colleagues (2005) have provided one of the better examples of using an RtI approach for reading to children across 33 classrooms. Less than 5% of those children, who via the ongoing weekly monitoring of reading, received increasingly intense and ultimately one-on-one instruction through the RtI multi-tiered model, were still considered not to have made adequate progress in reading, compared with nearly 15% of the control classrooms using standard reading instruction and practices. In other words, in the classrooms that implemented RtI strategies to reading practices, only 5% of the students were considered to have made inadequate progress in reading. However, nearly 15% of students did not make adequate progress in the traditional classroom setting.

The core principle of RtI states that it is not a replacement for an Individualized Education Program (IEP), nor is it meant to be a stand-alone education strategy. In addition, RtI is not primarily focused on diagnosing disabilities in order to increase special education
numbers. On the contrary, RtI is a proactive, multi-tiered system that is designed to meet the needs of all learners. The first tier contains research-based core curriculum and classroom interventions that are available to all learners. The second tier consists of targeted group interventions for those students who require supports in addition to the instruction and services provided in Tier 1. The third tier of instruction involves intense individual interventions for approximately 5% of the students. The intense individualized interventions are provided in combination with the first and second tiers of instruction. The RtI approach provides a collaborative effort of teaching utilizing a problem-solving and evidence-based model.

However, the students for whom response to intervention strategies were designed for are those who are typically developing in the public school system education. The students at the MCISD Educational Center are typically much lower functioning than those who are placed in the standard public schools. Therefore, those in the SCI and MoCI classrooms would all be considered in the second and third tiers of the RtI model. They would need more direct and frequent assistance, so the use of “push-in,” class-wide instruction may not benefit the children at the MCISD Educational Center. The special education teachers stated that the students work better when they are pulled-out of the classroom because they can be removed from a lot of sensory stimulation and can focus better on tasks. Therefore, based on the population and the needs voiced by the teachers and therapists, a program that pulled students out of their regular classroom, possibly in small groups, would be more beneficial than a class-wide instructional strategy.

There are several needs that are relevant to occupational therapy at The Educational Center. First, there exists a need for increased meaning in the daily lives of the students. Next, the students need to organize sensory information and become more capable of attending and
engaging in occupationally embedded classwork. Then, problem behaviors and “stimming” behaviors are very commonly seen among the younger students so implementing a sensory program to help normalize their sensory processing abilities will hopefully aid in the reduction of these negative behaviors. Negative or maladaptive behaviors can interrupt a daily routine and can negatively impact a student’s ability to engage in schoolwork, so these behaviors need to be reduced in this setting.

When looking into a program that aims to meet these needs, there are certain stakeholders that must be contacted and informed. The stakeholders for this program will include members of the facility and of the community. First of all, the staff of the MCISD Educational Center will be stakeholders in the program because they will be helping implement the program. The staff includes individuals from various professions including occupational therapists, physical therapists, speech-language pathologists, and special education teachers. There are also regular aides and other staff members who have regular contact with the population at the Educational Center. Other stakeholders would include the individuals who are higher in the MCISD hierarchy. These individuals, such as The Monroe County Intermediate School District (MCISD) Board of Education, administration, and staff have the authority to permit or deny programs that will be implemented in their facility. Therefore, they clearly are stakeholders in the process of implementing a sensory learning program at the MCISD Educational Center. More specifically, Elizabeth Taylor is the Assistant Superintendent in the Human Resources and Legal Counsel Department and she will be formally approving the production of this sensory learning program. The Assistant Superintendent of Special Education and Early Intervention Services, Michelle Brahaney, and the Principal of the MCISD Educational Center, Bill Hite, will also be important stakeholders in the implementation process.
In addition, parents of the students at the Educational Center are significant stakeholders in the program. They will be provided with information about sensory integration and the techniques being utilized throughout the program. Thus, they will be the important indicators of whether or not the program is having effects on the students outside of the school setting. The students who are engaging in the program are the main stakeholders because the design of the program is highly dependent upon their needs. Finally, the taxpayers of Monroe County are stakeholders because their tax-dollars are funding the public school systems.

**Data Gathering**

It is important to utilize different methods of data gathering in order to ensure a thorough view of the facility and its needs were taken. The first form of data gathering was a semi-structured interview with an occupational therapist that is employed at the MCISD Educational Center. The face-to-face interview was conducted at the MCISD Educational Center on February 17, 2012. This interview provided the opportunity to ask stakeholder(s) questions about the creation of a sensory program at the facility. The interview allowed me to develop a baseline of general needs for the different populations of students at the Educational Center. More information concerning the specific sensory needs of the students will be attained and described in future meetings with the occupational therapists at the Educational Center. It also afforded me another opportunity to look at the available resources and how a sensory program could be run in the provided spaces. The face-to-face interview also allowed the opportunity to ask any additional questions as they arose (Fazio, 2008).

Other individuals consulted through a semi-structured interview and through observations of their classrooms include the special education teachers. The teachers interact and work with the students five days a week, so their input on what the children need is very valuable. Through
days of direct observation, I was able to obtain a better understanding of the typical classwork and routines used throughout the day at The Educational Center. The special education teachers, along with other stakeholders at the Educational Center, were enthusiastic about the sensory processing program at their facility and appear to have a sincere interest in implementing the program.

Another form of data gathering consisted of direct observation of the students in their educational environment. The observations consisted of a detailed analysis of the classrooms, hallways, and other areas of the Educational Center in which the students will be stationed throughout the day. This view, coupled with the interview(s) of the special education teachers, will provide a well-rounded understanding of what the students engage in on a daily basis. The key to understanding a student’s sensory processing skills and functioning during environmental challenges involves assessing how they interact in a naturalistic environment (Williamson, Anzalone, & Hanft, 2000). Therefore, clinical observations are very important when working with this population.

In addition to observation, a focus group with the parents would be beneficial because the program’s aim should be an overall improvement as opposed to only an improvement in the educational setting. A focus group involving the parents would also be beneficial because the parents will hopefully be comfortable in an open discussion setting where professionals are asking their personal opinions and viewpoints on certain areas pertinent to their children’s health and functioning. This will also allow the parent to share behaviors or problems they are having at home with professionals who work with their children on a daily basis. One study assessing the challenges experienced by parents of children with disabilities defended the use of focus group with the parents because it allowed for concentrated conversations that help to obtain rich
information about parents’ struggles (Resch, Mireles, Benz, Grenwelge, Peterson, & Zhang, 2010). Attached is a copy of the focus group instrument that will be used when working with the parental population in Monroe County (see Appendix D). The best place to complete the focus group would be at the Educational Center because the families whose children attend the Educational Center live at different points throughout Monroe County. The focus group should invite the parents of the students in one classroom because the class size is only 10-12 students and it is likely that not all of the parents would attend.

According to researchers, focus groups of eight individuals generate more ideas than focus groups of four (Fern, 1982). Therefore, when scheduling our focus group, we should ask the parents to reply and state whether they are attending prior to the meeting so that we can ensure there is an optimal number of people who will come to the focus group. They also state that individual interviews tend to result in more ideas and more relevant ideas (Fern, 1982). Due to the difficulties with having families that reside in various areas around Monroe County, it would be very difficult to conduct individual interviews with parents. As Lisa stated in the interview, parent involvement is an issue in Monroe County, so asking parent to come to The Educational Center after the regular school hours will act as a constraint in gathering their opinions.

One more researcher, Jenny Kitzinger (1994), states that focus groups examine how knowledge and ideas both develop and operate within a given cultural context. This idea is important to acknowledge because those from Monroe County share a cultural context unique to that area of the state. This area of Michigan has a high proportion of auto workers and farmers, so making sure to remain conscious of the education levels of the audience will also be important while conducting the focus group. In addition, according to the Michigan Department of
Technology, Management, and Budget, there are 37,500 unemployed individuals in Monroe County. Therefore, understanding that monetary resources may not be available for some families is an important aspect to acknowledge when one is considering having the parents drive to the Educational Center for a focus group. So, in order to ensure attendance of the parents, I would send out the notice for the focus group at least two months in advance and then send a reminder when the focus group is three weeks away. Lastly, I would make a phone call to each family two weeks prior to the focus group to try and come up with an estimated attendance value.

Since the population of individuals at the Educational Center may be quite large, an alternative to hosting a focus group could be using a survey. A survey questionnaire designed to target the parent or caregivers of the students at the Educational Center could be sent out through the mail or through email depending on what is the preferred method at the facility. In order to increase the likelihood of a response, I would send the survey through the email that is registered to the family. If a family does not have a registered email with the facility, I would send them the survey through the mail along with a prepaid envelope to send it back in.

The survey would focus on questions about the parents’ concerns while their student(s) is at home. Freedman and Boyer (2000) state the importance of this method because they found that often parents have an impression that there is a lack of coordination between different social departments, agencies, and other workers even in an education based facility. Another study found that a parent’s satisfaction with an educational program is often based on subjective criteria like their perceptions regarding their child’s sense of well-being or the presence of a caring teacher in the child’s environment (Giangreco, Cloninger, Mueller, and Ashworth, 1991). Therefore, it is apparent that the parents’ perspectives on such a program should be considered.
The potential participants in this sensory processing group include the students at the Educational Center, the employees, and the families of the students. The conversations with the occupational therapists and special education teachers at The Educational Center have yielded insights into the needs of the students and families of the children at the Educational Center. The brief tour of the facility provided me with an overview of the available spaces and resources within which one could run a sensory processing group. Observations of the children in their educational environments also showed what kinds of occupations they are expected to engage in and complete throughout their daily routine. I was not able to interact directly with the students but during the brief observations, it was apparent that some students were engaging in repetitive “stimming” behaviors at their desks. One of the aims of a sensory processing group at the Educational Center will be to reduce these behaviors and increase the amount of time the students remain engaged in their designated occupations. Therefore, the time spent at the facility contributed nicely to the understanding of what needs exist at the Educational Center.

The needs of the students, parents, and employees will have to be prioritized from most important to least important according to observed needs of the children. Based on the time spent observing the students, it is apparent that a sensory-processing program would be beneficial to their educational routine. Therefore, in an ideal world, the criteria used to determine which need is most important would be the observations of the students in their natural environments, both at the Educational Center and at home. The problem with this is that it will not be possible for an individual therapist to observe every child involved in the program at their home environment. So, instead of using the observations as the criteria, I will utilize the input from the occupational therapists in order to prioritize the needs of the facility and the student.
Based on the therapists, the most important need is to improve the students’ ability to organize sensory input while learning the educational curriculum. Secondly, there is a need for the students to decrease the number of negative or maladaptive behaviors that they perform in order to increase their engagement in their academic and occupationally embedded schoolwork. Then, the lack of information for the caregivers about how to implement sensory strategies at home will be important to address. This will include information regarding easy-to-use occupations that they can engage in at home via handouts and through email. Next, the teachers and aides need information that will help students integrate and process sensory information around The Educational Center. The teachers at the facility are relatively knowledgeable when it comes to sensory information and there are always therapists around to answer any additional questions that they may have.

**Literature Review**

**Model of Practice: Sensory Integration**

The development and implementation of a sensory processing program at the Monroe County Educational Center (MCEC) requires a thorough review of frequently used terminology, theories underlying sensory strategies, and pertinent research in the areas of sensory integration, sensory processing disorders, and developmental disabilities. A. Jean Ayres created the theory of Sensory Integration based on her background in neuroscience and occupational therapy. Ayres (1972a) defines sensory integration as “the neurological process that organizes sensation from one’s own body and from the environment and makes it possible to use the body effectively within the environment.” Therefore, sensory integration is a theory of brain-behavior relationships that aims to show the link between sensation and an individual’s outward behavior. In addition, Ayres (1972b) stated that in order to develop appropriate motor and cognitive skills,
the brain has to internally interpret and process continuous information from all the senses, in particular the visual-perceptual, proprioceptive and vestibular sensations. Inaccurate integration of the sensory information can slow gross and fine motor maturation and delay cognitive development as manifested by clumsiness, dyslexia, poor academic skills, and other apparent issues (Ayres, 1972b). In summary, sensory integration theory supports development and engagement in occupations through the organization of one’s nervous system.

Roley, Blanche, and Schaaf (2001) stated that normal sensory integrative abilities provide the foundation that enables individuals to participate in meaningful and purposeful occupations of daily living. Sensory integration theory assesses and takes into account the dynamic interactions between an individual’s developmental structure and how they are able to interact with their environment (Ayres 1972a; Ayres 1972b). Ayres’ conducted studies that suggest that certain sensory systems work together to facilitate perception and interpret multisensory contexts (Ayres, 1965, 1966a, 1966b, 1972a, & 1972b). For example, when acquiring an understanding of body awareness and praxis, the proprioceptive and tactile systems work together and both the visual and auditory systems work together to perceive written and verbal language (Ayres, 1989). Therefore, this understanding lead to further research that suggested that the brain is more likely to detect and respond more quickly to an event that provides multisensory input (Streri, Spelke, & Rameix, 1993; Wallace, Wilkinson, & Stein, 1996). Hence, according to sensory integration theory, the tactile/proprioceptive and vestibular/proprioceptive systems interact routinely with the other sensory systems to provide the multisensory information needed to engage in a meaningful motor response (Roley et al., 2001).

Sensory integration theory states that if sensory integration is not well developed by the time a student reaches school, then the deficient sensory system will interfere with the student’s
ability to learn and accomplish school tasks (Ayres, 1972). Parham (1998) conducted a four-year, longitudinal investigation of whether sensory integrative measures are predictive of school achievement when intelligence and socioeconomic status were taken into account. Her results show that, after controlling for the level of intelligence, children ages six to eight display significant correlations between sensory integration and their math skills. Also, in regards to both reading and arithmetic, the study showed a strong longitudinal relationship between sensory integrative performance in the early grades of school (ages six to eight) and achievement four years later. The study also found a strong relationship between praxis and math achievement. Therefore, the researcher’s findings support the hypothesis that sensory integration, especially praxis, is related to achievement in arithmetic and reading when controlling for intelligence (Parham, 1998). The limitation to these findings is that correlation does not imply causation.

Sensory integration therapy is justified in the treatment of individuals with intellectual disabilities because they have a common feature of being unable to integrate sensory information into adaptive responses such as making judgments, responding to the environment, and meeting the demands of occupations (Wuang, Wang, Huang, & Su, 2009). Researchers examined the effectiveness of sensory integration therapy, neurodevelopmental treatment, and perceptual-motor approaches on children with intellectual disabilities. The sensory integration approach utilized swinging, tactile-perception activities, and bilateral integration activities that were facilitated through dancing and gymnastics. The neurodevelopmental treatment was used to facilitate normal postural control and movement synergies while promoting optimal movement patterns. The perceptual motor group received fine and gross motor training presenting through activities such as cutting, dot-to-dot puzzles, tracing designs and other similar tasks. The study also utilized a strong design consisting of large and relatively equal sample sizes, comparison
with a no-treatment control group, randomization amongst condition groups, and the use of psychometrically sound test instruments including the Bruininks Oseretsky Test of Motor Proficiency (BOTMP), the Developmental Test of Visual Motor Integration (Beery-VMI), and the Test of Sensory Integration Function (TSIF). The results of the study concluded that SI therapy resulted in the greatest improvement on the Test of Sensory Integration Function (TSIF). This suggests that children with intellectual disabilities are able to benefit from SI therapy in order to optimize the integrated processing of sensory cues and motor responses. In addition, the SI group achieved the greatest increase in scores in the BOTMP fine motor subtests possibly due to the fact that skilled fine motors abilities are influenced by sophisticated motor control and higher-level motor planning. These motor control and motor planning abilities can be enhanced by the proper organization of sensory input caused by the SI therapy (Wuang et al., 2009).

Schaaf and Nightlinger (2007) conducted a case study with a child who had poor sensory processing that was affecting his ability to participate in social, play, and home occupations. Initially, he demonstrated hyperresponsivity to tactile, vestibular, oral-sensory, and auditory stimuli. In addition, he exhibited a limited food repertoire, exaggerated emotional and behavioral responses, and expressive language delays. The researchers gathered this information from the Sensory Profile (Dunn, 1999), an interview with the parents, a review of previous evaluation reports, and systematic observations of the child’s behaviors. The researchers used an occupational therapy with a sensory integrative approach (OT-SI) for 10 months in order to analyze the impact it can have on a four-year old with poor sensory processing skills. This approach consisted of a warm-up, active sensory motor play with a focus on multisensory input, active sensory motor play with a focus on praxis, and a snack with a focus on socialization. Their results showed that the participant demonstrated improvements in all targeted OT goals.
including: motor planning and participation in age-appropriate occupations, decreased fear reactivity to vestibular occupations, decreased oral-sensory sensitivity, expanded food repertoire, participation with family and friends at mealtime, improved social development and the beginning of social play initiation, and improved manual exploration and participation in age-appropriate play occupations. The case study conducted by Schaaf and Nightlinger presents and details improvements in occupational performance areas after 10 months of an OT-SI approach and adds to the several case studies that detail the use of the OT-SI approach with various populations (Schaaf et al., 1987; Case-Smith & Bryan, 1999; Linderman & Stewart, 1999; Baranek, 2002; Mulligan, 2003a, 2003b).

Often, maladaptive behaviors become evident when individuals struggle with controlling their sensory processes. These maladaptive behaviors can range from barely noticeable behaviors such as finger tapping to highly noticeable behaviors such as self-injury. One study (Smith, Press, Koenig, & Kinnealey, 2005) compared the effects of occupational therapy, using a sensory integration approach and a control intervention of tabletop activities, on the frequency of self-stimulation behaviors. This study utilized an ABAB design in which during the first and third weeks the child received a control session once a day while during the second and fourth weeks the child received a treatment using a sensory integration approach. The researchers then tracked the number of self-stimulating and self-injurious by videotaping the child’s behaviors before, immediately after, and 1 hour after the interventions. The results indicated that self-stimulating behaviors were not significantly reduced immediately after the therapy treatment. However, the researchers found that self-injurious behaviors were reduced by 11% one hour after the sensory integration intervention (Smith, Press, Koenig, & Kinnealey, 2005). Similarly, Watling and Dietz (2007) conducted a different study that found that the SI approach did not
significantly reduce undesired behaviors immediately after treatment. But, the researchers did find that the caregivers reported positive changes in their children’s behavior in the home environment. The researchers then suggested that using an individualized sensory integration approach during treatment might be effective in reducing the number of self-stimulating behaviors after a latency period (Watling & Dietz, 2007; Smith et al., 2005).

As defined earlier, sensory processing refers to the neurological process of receiving, modulating, and integrating sensation and how the brain organizes the sensation for use (Schaaf & Miller, 2005). If an individual has efficient sensory processing, then he or she will demonstrate normal responses to the changing sensory demands of the environment. Due to some controversy over the validity of sensory processing disorders (SPDs), researchers set out to validate the diagnostic criteria by using electroencephalographic (EEG) measures to examine brain processing in children with and without SPD (Davies & Gavin, 2007). The authors state that sensory gating refers to the neurological processes that filter out redundant and/or unnecessary stimuli from the environment in the brain. In their study, the researchers assessed individuals’ sensory gating abilities by presenting 120 pairings of click sounds while the individuals watched a silent movie that was meant to be visually entertaining to the children. The children with the SPD were referred by their occupational therapist while the children without the SPD were randomly selected from a database of typically developing children.

The results displayed that children with SPD demonstrated less sensory gating than children without SPD, indicating that individuals with an SPD have difficulties ignoring repeated or irrelevant auditory stimuli. Furthermore, children with SPD did not show a significant relationship between sensory gating and age, although the children without SPD did demonstrate a significant relationship. As children grow older and mature, their sensory gating abilities tend
to improve as demonstrated by a positive correlation between age and sensory gating in the control group. The researchers’ results indicate that there is a difference in brain processing of auditory stimuli between children with SPD and children without SPD as measured by the EEG. Therefore, the data shows that individuals with an SPD can be distinguished from children who do not have a SPD by brain processing measurements (Davies & Gavin, 2007). The importance of this finding is that children who have a SPD have more difficulties in ignoring sensory information and they are often the ones who have difficulties listening when there is a lot of background noise.

Autism is a neurodevelopmental disorder that is characterized by impairments in social interactions, communication skills, and irregular and repetitive patterns of behavior (Tomcheck & Dunn, 2007). Also, individuals with autism are thought to have impairments in sensory processing which causes them to respond differently to sensory information than typically developing individuals (Baranek, 2002; Tomcheck & Dun, 2007; Scaaf & Miller, 2005). One study aimed to investigate the differences in sensory processing among individuals with autism spectrum disorders (ASDs) and typically developing individuals between the ages of three and six (Tomcheck & Dunn, 2007). The researchers provided the caregivers with the Short Sensory Profile (SSP) in order to compare the sensory processing abilities of the two groups of children. The results showed that 95% of the sample of children with an ASD demonstrated some degree of sensory processing dysfunction as measured by the SSP total score. The children whose scores indicated that they have sensory processing problems were commonly reported as being inattentive, underresponsive, and especially sensitive to tactile input. Their scores also indicate that they are sensory seekers who have difficulties filtering out auditory information (Tomcheck
and Dunn, 2007). The results of this study indicate that a majority of individuals with autism also have sensory processing difficulties.

A research study conducted by Linderman and Stewart (1999), examined the effects of sensory integrative-based occupational therapy provided in an outpatient clinic on the functional behaviors of two children diagnosed with pervasive developmental disorder. The researchers used an adapted version of Cook’s revised Functional Behavior Assessment for Children with Sensory Integrative Dysfunction (Cook, 1991) to identify and measure the duration, quality, and frequency of targeted behaviors at home. The first participant was treated once a week for 11 weeks while the second participant was treated once a week for 7 weeks. The treatment for each participant depended on their individual sensory needs and utilized a wide array of materials and activities that addressed the given participants needs. The results for participant 1 indicated major improvements in the areas of social interaction, approach to new activities, and response to holding and hugging during the treatment phase. The results for participant 2 displayed significant, but gradual, gains in social interaction, and response to movement during the treatment phase. Combined, the participants’ outcomes indicate that both participants demonstrated significant gains in all functional behaviors observed in the natural context of the home with the exception of Participant 2’s communication during mealtime (Linderman & Stewart, 1999). The results are in support of the theory that sensory integrative therapy may enhance the behavioral responses of children with pervasive developmental disorder (Jang, 1996).

Sensory Modulation Disorder is a particular sensory processing disorder that is characterized by a difficulty in registering and regulating the degree, intensity, and nature of responses to sensory input in a normal, graded manner (Miller, Robinson, & Moulton, 2004).
The regulation of sensory input allows for an optimal range of performance and adjustments to everyday life challenges and keeps individuals from reacting inappropriately to normal sensory input. Individuals who have sensory modulation disorder (SMD) typically exhibit exaggerated reactions to relatively normal stimuli. It is estimated that between 40 and 80 percent of individuals with diagnosed developmental disabilities also exhibit the comorbidity of a sensory modulation disorder (Baranek et al., 2002). Researchers also used a survey to study the prevalence of sensory modulation disorders in children in the general population (Ahn, Miller, Milberger, & McIntosh, 2004). The results of this study indicate that the prevalence of SMD is 5% according to the results from parents who completed Short Sensory Profile.

Sensory integration therapy programs do not have a plethora of evidence-based support due to the fact that sensory integration theory states the importance of an individualized treatment plan. Ayres suggested that children have individualized sensory needs so therapy sessions should be dedicated to their personal drives for certain sensory stimulation. One study utilized a sensory integration therapy program with children who have autism and compared it to a control group who also had the diagnosis of autism. The children were randomly assigned to a treatment group and a control group based on a stratification procedure in order to ensure group equivalency. According to the authors, the groups were then matched for age, sex, and level of function based upon scores on the Sensory Evaluation Form for Children with Autism. The implemented sensory program was based on “The Sensory Diet,” which is a program that provides children with an individualized home or classroom program of sensory-based occupations that target the child’s sensory needs (Biel & Peske, 2009). The program provided the treatment group with two sensory sessions per week for 12 weeks while the control group attended their regular special education classes. The authors designed The Sensory Evaluation
Form for Children with Autism and used it to assess the sensory problems seen in the children in the study. Based on this assessment, the results showed that there was a statistically significant decrease in the number of problem behaviors seen in treatment group. The authors postulate that the sensory integration program designated to those in the treatment group reduced the sensory problems of the children with autism according to their assessment (Fazlioglu & Baran, 2008).

A pilot study conducted by Miller, Coll, and Schoen (2007) used a randomized control trial to examine the effectiveness of occupational therapy using a sensory integration approach (OT-SI) with children who have sensory modulation disorders (SMDs). The researchers randomized the children into one of three conditions; OT-SI, Activity Protocol, and No Treatment. The OT-SI condition consisted of the therapist and the child interacting in a large occupational therapy room equipped with sensory-based materials and toys. The child used his or her imagination to create a pretend situation and then utilized the objects in the therapy room in an active, meaningful, and fun manner. The occupational therapist would challenge the children with whatever sensory objects they chose, but would be cognizant of using grading that allowed the child to be successful. The Activity Protocol involved non-occupational therapy staff engaging in tabletop play activities with the children. Lastly, the No Treatment condition was a passive control group consisting of a 10-week wait list for OT-SI. The results indicated that the children in the OT-SI group made significantly greater gains than the children in the other two groups on the Goal Attainment Scale (GAS) as developed by Kiresuk, Smith, & Cardillo (1994). In addition, the OT-SI group also made significant improvements on Attention and Cognitive/Social composite as measured by the Revised Leiter International Performance Scale: Parent Rating Scale (Roid & Miller, 1997). They also found that the OT-SI approach led to greater reductions in the amplitude of electrodermal responses compared with the other two
groups, indicating a decreased stress response to repetitive and potentially noxious sensory stimuli (Miller et al., 2007).

Approximately 90% of American occupational therapists who work in school settings use sensory integration (SI) theory and techniques in their interventions with children with learning disabilities, ADHD, autism, and behavioral problems that may be related to difficulties in organizing and processing sensory information (Miller & Fuller, 2006). Therefore, researchers thought it would be important to complete a systematic review of the research evidence concerning the effectiveness of SI interventions from twenty-seven studies (May-Benson & Koomar, 2010). They analyzed and presented the results by outcome areas. The outcome areas they used and examined were: motor performance, sensory processing, behavioral outcomes, academic and psychoeducational outcomes, and occupational performance. In regards to occupational therapy, occupational performance outcomes are especially important. As hypothesized, all three research articles with occupational performance measures as their dependent variables found significant gains in the self-identified tasks and occupations, and positive changes in both performance of tasks and the satisfaction of performance of tasks (Miller et al., 2007; Candler, 2003; Roberts, King-Thomas, & Boccia, 2007). Overall, results from the systematic review suggest that the SI approach may result in positive outcomes in sensorimotor skills and motor planning, socialization, attention, and behavioral regulation, reading-related skills, and participation in play (May-Benson & Koomar, 2010). Lastly, the researchers state that the trends for positive results associated with the SI treatments are limited by the methodological concerns, especially small sample sizes (May-Benson & Koomar, 2010).

Another systematic review of the literature related to performance difficulties for children and adolescents with difficulties processing and integrating sensory information was conducted
These researchers analyzed 35 studies that met the criteria of addressing performance difficulties in the areas of play, leisure, social participation, ADLs, IADLs, rest, sleep, education and work. The articles reviewed were divided into four areas of occupational performance: 1) play, leisure, and social participation; 2) ADLs and IADLs; 3) rest and sleep; 4) education, transition, and work. Concerning play, leisure, and social participation, the articles provide evidence that decreased quality and quantity of play skills and social participation is associated with sensory processing difficulties. One study showed that low neuromotor coordination scores were a significant predictor of social problems in children with developmental coordination disorders (DCDs) (Cummins, Piek, & Dyck, 2005). In terms of ADLs and IADLs, the research showed that children with difficulties in processing and integrating sensory information also demonstrated difficulties with functional performance. Rest and sleep are also shown to be affected by sensory difficulties. For example, one study found that children with tactile sensitivity had more disturbances in sleep behavior showing that hypersensitivity affects sleep patterns (Schochat, Tzischinsky, & Engel-Yeger, 2009). Lastly, research articles showed that children with difficulties processing and integrating sensory information displayed decreased academic achievement and attention and were at a higher risk for learning difficulties. One study found that individuals with DCDs demonstrated significantly poorer performance on attention tasks and learning tasks including spelling, reading, and writing when compared to a comparison group of children without DCDs (Dewey, Kaplan, Crawford, and Wilson, 2002). In summation, the results of this systematic review indicate that individuals who have difficulties processing and integrating sensory information also display difficulties in several important areas of occupational performance (Koenig and Rudney, 2010).
The authors then proceed to discuss assessment and intervention guidelines that should be consulted and/or adhered to when occupational therapists are working with individuals with sensory problems. They also suggest that the individuals with the sensory problems should increase their participation in programs that encourage social skills and community participations in various settings. The aim of a sensory processing program would be to help normalize and stabilize behavioral functioning of the individuals with the sensory problems, so that they can be more capable of participating in daily life occupations. If their functioning can be better stabilized, then their participation in the community settings and other naturalistic settings will hopefully be increased.

Additional research suggests that multisensory interventions and teaching methods have positive outcomes for individuals with special needs (Ashley et al, 1995; Lindsey et al, 1997; Houghton et al, 1998; Kaplan et al, 2007; Lotan & Gold, 2009). One study, utilizing an observational research approach, studied the observed impact of student selected multisensory experiences on sustained focus, self-injurious behaviors, and the difference in the average relaxation, happiness, and engagement levels before, during, and after experiencing the multisensory environment (Thompson, 2011). The observer researchers completed observation forms for individual students for three 20-minute time periods (i.e. within the regular classroom, within the multisensory center, and in the regular classroom after the multisensory experience) over a period of five months. The researchers found a significant increase in the students’ sustained focus in the regular classroom after engaging in the multisensory experience. The mean number of self-injurious behaviors by the students decreased by 98% after they experienced the multisensory environment and returned to their regular classroom. In addition, the researchers found significant increases in each area meant to characterize student attention or
sustained focus (i.e. happiness, relaxation, and engagement/interest). The students demonstrated more relaxation, happiness, and engagement after experiencing the multisensory environment suggesting that relaxation and comfort are provided to individuals with disabilities through the use of a multisensory approach. Overall, the results of the study suggest that engaging in a multisensory environment improves sustained focus, self-injurious behavior, relaxation, happiness, and engagement (Thompson, 2011).

Multisensory learning approaches are common in special education. A study conducted by Searson and Dunn (2001), examined the effects of various teaching models, one of which entailed kinesthetic and tactile experiences. Kinesthesis is the sense of movement and position of the limbs that arises from information sent to the brain from the muscles, joints, and skin. The kinesthetic and tactile learning opportunities allowed the students to use several manipulatives, large floor games, and other active movement techniques to answer questions and learn material. The results indicated that when teachers used tactile and kinesthetic teaching methods, there was a significant increase in the student science achievement scores. A limitation to this study is that the researchers did not provide any demographic information except that the students were located in a New Jersey suburban elementary school. Therefore, the generalizability of the finding could be questioned based on the lack of randomization and disclosure of demographics.

**Demographic Statistics**

Researchers from the Centers for Disease Control and Prevention (CDC), in collaboration with researchers from the Health Resources and Services Administration (HRSA), conducted a study analyzing the prevalence of developmental disabilities in The United States from 1997-2008. In order to assess this information, the researchers asked parents or legal guardians if their children had any of the following developmental disabilities: Attention Deficit Hyperactivity
Disorder (ADHD), autism, blindness, cerebral palsy, moderate to profound hearing loss, intellectual disability, learning disorders, seizures, stuttering/stammering, and other developmental delay. Unfortunately, the government does not collect statistics on sensory processing disorders (SPD). The analysis conducted involved 119,367 children between the ages of 3 and 17. The results from the study showed that the prevalence of any developmental disability had increased from 12.84% to 15.04% during the 12-year span. As of 2008, nearly 1 in every 6 children has a developmental disability. The study also indicates that there was a 289.5% increase in the number of individuals with autism from 1997-1999 compared to 2006-2008. The Educational Center at the MCISD provides services for individuals with various disabilities including those assessed in this study.

The Centers for Disease Control and Prevention created a network to monitor autism and other developmental disabilities in the year 2000. According to a fact sheet released by this network of the CDC, approximately 1 in every 110 children in the United States has an autism spectrum disorder (ASD). The authors then state that ASDs occur in all racial, ethnic, and socioeconomic groups, but are four times more likely to occur in boys than in girls. The research studying the prevalence of ASDs in the United States shows that there is an increasing number of ASDs being seen throughout the United States. Often, individuals with an ASD also have difficulty managing their sensory input. Therefore, due to the increasing prevalence of ASDs in the United States, it is reasonable to state that the number of individuals who could benefit from a sensory processing program is also increasing.

The United State of America Census Bureau displays characteristics on population, housing, economic, geographic, disability, and other information on its website. Information pertinent to a sensory processing program development plan for Monroe County can be found on
this website. When narrowing the search options to disability in Monroe, Michigan, one can find the estimated number of individuals with disabilities in Monroe. Furthermore, this information is broken down into age groups. The total number of individuals in the categories of “under 5 years” and “5-17 years” who have a disability is 981. Most likely, the individuals at the MCISD Educational Center will be classified as having a cognitive difficulty. The Census Bureau estimates that 879 individuals between the ages of 5 and 17 have a cognitive difficulty. This information is important when discussing why a sensory processing program would be beneficial to individuals in Monroe County, Michigan.

According to the Healthy People 20/20, the educational achievement objective states that there should be a focus on increasing the educational achievement of adolescents. The Educational Center also shares this goal as stated by their mission. Therefore, both national and more local resources are calling for increased improvement in achievement in typically and untypically developing children. In addition, under the section of hearing and other sensory or communication disorders, the authors state that there should be an increase in the number of individuals with communication disorders of speech, swallowing, voice, or language who have undergone an evaluation or intervention service. A large proportion of the individuals at the Educational Center have a communication disorder of some variety. Therefore, improving the way and the frequency in which these individuals are evaluated and treated is necessary according to Healthy People 20/20. Furthermore, they also call for an increase the number of community-based organizations that provide population-based primary prevention services. A sensory processing program would address the entire Educational Center and would therefore be a primary prevention technique. Lastly, another objective labeled as, “Practicing health enhancing behaviors and reducing health risks,” suggests that students practice health-enhancing
behaviors that reduce health risks. Some sensory integration research suggests that the techniques can reduce behavioral problems and can normalize inappropriate behaviors such as self-injurious and/or “stimming” behaviors.

At the Monroe County Intermediate School District, there are 123 students with various intellectual and developmental disabilities. In addition, many of the students are multiply impaired, meaning that they have more than one diagnosed disability. For example, a student that is diagnosed with an autism spectrum disorder and a visual impairment would be considered multiply impaired in the educational setting. It is apparent that individuals with developmental and intellectual disabilities have altered sensory systems and they do not sense stimuli the same as those without disabilities (Davies & Gavin, 2007; Schoen, Miller, & Brett-Green, 2009; Dunn, Myles, & Orr, 2002). Therefore, multisensory approaches that capitalize on students’ existing and functioning sensory systems are vital to the learning process and success for these individuals.

**Program Objectives**

The goal of the Occupational Therapy Sensory Learning in Developmental Education (OT SLIDE) program for children with developmental disabilities at The Monroe County Intermediate School District Educational Center is to organize sensory input and increase engagement in occupationally embedded classwork.

- At the conclusion of the 16-week program, students will display an increased understanding of the educational curriculum.
- At the conclusion of the 16 week program, students will display an overall decrease in the frequency of negative behaviors as described by an individualized measure conducted by the occupational therapist.
• At the conclusion of the 16 week program, students will increase their engagement in occupationally embedded classwork.

• At the conclusion of the 16-week program, students will demonstrate better organization of sensory input at The Educational Center.

• At the conclusion of the 16-week program, students will demonstrate better organization of sensory input while in their home environment.

• At the conclusion of the 16-week program, students will display less maladaptive behaviors while at The Educational Center.

• At the conclusion of the 16-week program, students will display better regulation of sensory input and less maladaptive behaviors while at home.

• At the conclusion of the 16-week program, educators and therapist will be capable of determining the arousal levels of the students on a continuum of low arousal to high arousal.

**Marketing and Recruitment**

The success of the OT SLIDE program will be facilitated by a thorough and swift marketing campaign to a variety of stakeholders. The stakeholders that the program will be presented to include the MCISD Board of Education, MCISD Superintendent, MCISD therapists, MCISD special education teachers, MCISD paraprofessionals, parents/guardians, other staff members, and students at the Educational Center.

First, a presentation will be created and presented to the Board of Education. This PowerPoint presentation should provide a definition of the Theory of Sensory Integration, definitions of commonly used terms regarding SI, research pertaining to the area of SI, how occupational therapy uses SI, and why and how the program should be integrated into the daily
routines of the students at the Educational Center. Handouts and brochures with key definitions and important points will be provided for those in attendance. Other members within the organizational structure of the Educational Center should also be advised to attend the presentation so that they can have an understanding of the program and why it is pertinent to the setting.

A letter describing the structure, importance, and purpose of the OT SLIDE program will be sent to the MCISD Superintendent. This letter will be especially important if the Superintendent is not in attendance at the presentation for the Board of Educators. The letter will highlight the Theory of SI, how it relates to the students at the Educational Center, and how the occupational therapist will coordinate and implement the OT SLIDE program at the Educational Center. In addition, the areas and skills that the program will target will be addressed in this letter so that the Superintendent can have an understanding of how the program will benefit those in participating. The letter will also stress an open line of communication meaning that if the Superintendent has any questions regarding the program than he can freely contact the OT for clarification.

The occupational, physical, and speech therapists at the Educational Center will also be informed through a letter similar to the one presented the Superintendent. The occupational therapists will most likely be more knowledgeable in the area of SI due to the fact that it is a theory developed by an occupational therapist. Furthermore, the physical and speech therapists may not be as understanding of the SI concepts, so the letter should be tailored towards their areas of interest, so that they can understand the logic behind the program’s strategies. Word of mouth will also be important when discussing the program with other rehabilitation services employees due to the frequent communication between the disciplines. The marketing for these
individuals should also be supportive of their disciplines and descriptive in regards to how these strategies will help the students in various aspects of their occupational performance.

The special education teachers and paraprofessionals will be marketed to through a letter, a flyer, and open communication between the OT and them. The letters will be structured similar to those sent to the other therapists at the Educational Center. The flyer will provide a brief overview of the program, its goal, and who to contact if interested (see Appendix E for an example of a marketing flyer for the educators). The communication between professionals will be vital to the success in the implementation of this program because it will be built into the daily routine of the class. The teachers and aides will also be vital in the successful engagement of the students by encouraging and facilitating their participation. The OT will also depend on the help of these employees so that the OT is not overwhelmed when running this program. Therefore, open lines of communication should be encouraged between the teachers, paraprofessionals, and the OTs. Open communication is strong between the OTs and the classroom teachers due to the OTs utilizing the consultative model for certain students throughout the school. In addition, the teachers and aides will also be seeing the flyers that will be posted in the Educational Center that encourage the implementation of the OT SLIDE program. These flyers will be attractive, concise, and informative so that people who read them understand why the OT SLIDE program is being implemented.

The parents of the students at the Educational Center will be provided with a letter and a flyer about the OT SLIDE program. The letter will be similar to those addressed to the other therapists at the Educational Center. The reading level of the letter will be adjusted to a sixth grade level in order to ensure that individuals with varying levels of education will be able to comprehend the program and its methods. As with any public education institution, the
Educational Center conducts parent-teacher conferences that allow the parents to discuss educational topics with the teachers. The parent-teacher conferences occur at the beginning of the school year, typically in the month of September. It would be helpful for the occupational therapists to be available at the parent-teacher conference so that parents can better understand the OT SLIDE program and ask any existing questions. Lastly, the MCISD Parent Advisory Committee (PAC) meets approximately once every month to represent the views of parents with children in special education and provide input to those who work at the Educational Center. This would be a very important group to interface with so that they can gain an understanding of the program’s objectives, methods, and goals.

The individuals at the Educational Center are required to fill out demographic information because they are enrolled in the school. Therefore, their information is already stored at the facility, so the therapist will only have to make a copy of the information for his or her filing system. The students that the program will be designed for are the younger students between the ages of 4 and 12. As mentioned earlier, the students are in designated classrooms based on their functional level as opposed to ages. So, the age of the students is not the main determining factor of what classroom they are assigned to. Initially, the program will be designed for the two classrooms for moderate cognitive impairments (MoCI) and severe cognitive impairments (SCI). These classrooms each have between eight and twelve students, so the estimated number of students initially participating in the OT SLIDE program will be sixteen to twenty-four students. Furthermore, all students within these classrooms will be participating unless a parent states that they do not want their child to participate in the program. In the event that this happens, these students will be excused from the program and will be placed in another classroom or will spend time with an educational aide during the sensory learning experiences.
The program can be modified so that if the other classrooms that contain children with more severe or less severe cognitive disabilities at the Educational Center wish to utilize the program, then they are able to do so. The students who will participate in the program will be recruited through these various methods so that there will be multiple reinforcing factors for the students including their parents, teachers, and other employees at the Educational Center. Lastly, a main goal of the recruiting process for the students will be aimed at helping the students to be comfortable with the implementation of this new program. Typically, students at the MCISD Educational Center become accustomed to consistency. Therefore, it will take time for the students to become familiarized to the new program and the new experiences that are occurring during their time at school.

The plan for marketing to these various groups of stakeholders will be relatively cost-effective with a couple minor exceptions. The letters will be constructed by the occupational therapist and the computer program needed for the letter is already available. The same goes for the creation of the flyers. Besides the costs in terms of time, the only additive cost of this process will be the printing out the letters and flyers. There are approximately 175 copies of the different letters needed so that all parents, board members, and other various professionals receive a letter regarding the program. In addition, approximately 10 flyers should be printed so that they can be posted around the school. These flyers should be printed in color so that they will be aesthetically pleasing and informative for the viewers.

**Programming**

The programming for The OT SLIDE Program at The MCISD Educational Center is logically related to the objectives. The goal of the program states that the program is aiming to improve sensory processing and engagement in classwork through the use of sensory processing
occupations and the objectives aim to satisfy this goal. Therefore, the programming will be based on occupations that are targeting certain sensory systems and the integration of those systems. The curriculum for the classroom will be reinforced by the implementation of the sensory occupations and the incorporation of curriculum concepts during the sensory occupations. The approach of the program will involve applying the concepts being taught by the teacher while engaging in sensory-based occupations. For example, if the students are practicing counting to ten, then the OT SLIDE Program occupation for that day will involve counting out loud while rocking ten times on a therapy ball while lying prone.

By targeting these sensory systems while reinforcing the educational curriculum, the professionals are capitalizing on the active-learning styles that many students crave. The sensory occupations will help the students be more engaged in the occupationally embedded classwork for longer periods of time. Incorporating the OT SLIDE program into the school routine three days per week at the Educational Center will help the effectiveness of this program by allowing the students to establish routines and normalcy into their weekly lives. The program will be designed in an eight-week format that will then repeat after the first eight weeks has passed because the first semester is sixteen weeks in length. The first week of programming consisting mainly of getting the students acclimated to the sensory equipment and the routine. These tasks will not be included when the program begins to repeat itself during the ninth week.

The program is designed to be integrated directly into their standard curriculum for the MoCI and SCI classrooms. Therefore, the second class of the day, beginning at 10:00 A.M., for the MoCI classroom will be the OT SLIDE Program. It will run for one hour because that is the length of the standard educational classes in the MoCI classroom. The OT and the OT aide will pull 3-4 students from the classroom and take them to the adjoined classroom. There, they will
engage in the sensory learning programming for 20 minutes. After, 20 minutes, the 3-4 students will rejoin their classmates and 3-4 different students will be pulled by the OT and aide. This procedure will ensure that all students in the MoCI classroom receive 20 minutes of the sensory learning activities. In the SCI classroom, the first class in the afternoon, beginning at 1:00pm, will be the time that the OT SLIDE program will be implemented. Unfortunately, it is not feasible to complete the OT SLIDE program in the morning with the SCI classroom due to the routine of the classroom. The same procedure involving the OT and the aide pulling 3-4 students at a time for 20 minutes will be employed in the SCI classroom.

The second semester of the school year is longer than the first semester by approximately six weeks. During the second semester of the school year, the program will run for eight weeks, repeat those eight weeks, and then the OT will repeat the first six weeks of the program to ensure that programming lasts for the entire school year. In other words, during the first semester of the school year, the program will run for eight weeks and then repeat once (i.e. 16 weeks). During the second semester of the school year, the program will run for eight weeks, repeat those eight weeks, and then repeat the first six weeks of the program to end the school year (i.e. 22 weeks). This technique is applicable to the SCI and MoCI students because they are typically targeting the same basic academic skills throughout the entire school year. So, repeating sensory learning tasks for the same academic skills (e.g. sorting, counting, color recognition, etc.) is effective for these populations.

The students in the SCI classrooms are typically working on more basic cognitive and motor skills than those in the MoCI classrooms. Due to this, many of the sensory learning occupations designed for the SCI classroom will involve basic movements and lower demands. Also, many of the sensory learning occupations for the SCI students will involve bringing the
sensory experiences to the child (e.g. placing the child on a platform swing and swinging them; bringing a bucket of dried kidney beans to the students; placing the students on a scooterboard and pulling them). While, the MoCI students will be able to engage in more active and higher level occupations in comparison to the SCI students. Despite the differences between the MoCI and SCI classrooms, some of the sensory learning occupations may be usable in each classroom.

Principles of Programming

According to Parham and Mailloux (2010), there are six guiding principle from Ayres Sensory Integration Theory and they include: 1) Sensory input can be used systematically to elicit an adaptive response, 2) Registration of meaningful sensory input is necessary before an adaptive response can be made, 3) An adaptive response contributes to the development of sensory integration, 4) Better organization of adaptive responses enhances the child’s behavioral organization, 5) More mature and complex patterns of behavior are involved consolidations of more primitive behaviors, and 6) The more inner-directed a child’s activities are, the greater the potential for the activities to improve neural organization. These guiding principles are similar to, but not the same as the basic assumptions discussed earlier. The programming for the OT SLIDE Program logically relates to these guiding principles.

Ayres stated that a child does not passively absorb his or her environment; rather the child actively selects sensations and experiences that are most useful at that time and engages in them. When one does not have a difficulty with sensory integration, this process is relatively effortless and the child is able to be successful in his or her environment. Furthermore, these organized reactions to the environment result in a goal-directed action, also referred to as an adaptive response. An adaptive response in thereby possible due to the fact that the brain was able to efficiently organize incoming sensory information, which then provides a basis for action.
In order to ensure active participation and engagement in the program, the program will be modified to account for the interests of the individuals in the program. This accommodation will be made within reasonable limits as the occupational therapist seems plausible. For example, if a student is engaging in a swinging occupation that requires them to place items into a bucket while they swing, they will be allowed to pick the items that they are using (e.g. bean bags, little stuffed animals, blocks, etc.). This added element of choice will add an increased level of engagement when it is possible.

As the students at The Educational Center engage in occupations that they find meaningful, they will become more capable of making adaptive responses. Ayres suggested that there is an innate drive within children to engage in meaningful occupations and speculated that this innate drive was generated by the limbic system due to its involvement in motivation and memory. When a child has an adaptive response to a just-right challenge, the child modifies his behavior with new and useful strategies, thus promoting learning and development.

A sensory diet is defined as the strategic use of sensory occupations in order to promote appropriate behaviors and responses. Just as a child needs food and drink throughout the day, a child also needs sensory input and opportunities to feel and experience different sensations. Ayres referred to sensory input to be sensory nourishment for the brain. Children may also need breaks from sensation in order to maintain appropriate behavior. Research by Hall and Case-Smith (2007) investigated the effects of using a sensory diet in collaboration with a therapeutic listening program with children who have sensory processing disorders (SPD). After 12 weeks of intervention, the participants exhibited significant improvement on the Sensory Profile, demonstrated by an increased mean of 71 points. Their parents also reported improvements in the children’s behaviors related to sensory processing. There was also evidence
of improvement on the Developmental Test of Visual-Motor Integration (VMI) visual subscale and on the Evaluation Tool of Children’s Handwriting (ETCH). In conclusion, the researchers suggest that a diet of sensory occupations, combined with a therapeutic listening technique, can be effective in reducing many behaviors associated with sensory integration disorders. Although the therapeutic listening protocol will not be utilized in The OT SLIDE Program, sensory occupations designed to target the vestibular, proprioceptive, and tactile sensory systems will be appropriate.

Researchers developed a study examining the effects of sensory integration intervention on behavior and task engagement in children with autism spectrum disorders (ASD). The researchers utilized an ABAB design with four children with ASD comparing sensory integration treatment to a play scenario. Although there was no significant reduction in the number of problem behaviors, there was a subjectively notable difference according to the caregivers. The subjective observations of the research personnel and the caregivers suggest that the sensory integration intervention had a positive effect on transitions, socialization, compliance, and general behavior regulation. Parental reports state that changes did occur in regards to the behavior exhibited at home after engaging in sensory integrative techniques (Watling & Dietz, 2007). The sensory integrative techniques utilized by the OT SLIDE Program also aim to help the students demonstrate increased regulation and organization of sensory input while at home. Another study found an 11% reduction in the number of undesired behaviors after engaging in sensory integrative therapy (Smith, Press, Koenig, & Kinnealey, 2005). Therefore, it is possible that sensory integration therapy may have lasting effects on those that receive it and this aligns with another objective of the OT SLIDE Program which states that the students will display less maladaptive behaviors while at The Educational Center and while at home.
Researchers heavily utilized swings throughout their sensory integration therapy group when comparing SI to a neurodevelopmental treatment and perceptual motor approach (Wuang et al., 2009). The results indicated that the SI therapy group resulted in the greatest improvement on the Test of Sensory Integration Function (TSIF). Also, they found that the SI group also achieved the greatest increase in the BOTMP fine motor subtests. Ayres suggested that these occupations that stimulate the vestibular and proprioceptive systems operate at the lower levels of the central nervous system (CNS), particularly at the brainstem and thalamus (Parham & Mallioux, 2010). One of her more basic tenets is that the higher structures of the central nervous system are dependent upon the lower level systems. Therefore occupations that target these lower systems will help an individual to accomplish things that occur at the higher levels which in the case Wuang et al., would be the fine motor skills (Ayres, 1972a; Wuang et al., 2009). By helping individuals integrate sensory information more efficiently and improving their fine motor skills, one could infer that these improved abilities may contribute to increased success in academic endeavors such as those that are targeted at The Educational Center.

Another principle of sensory integration states that the brain is plastic and that it can be modified as the result of ongoing sensory experiences. The OT SLIDE Program will utilize various sensory strategies as described by Ayres in order to promote the formation of neural pathways for sensory processing. Ayres’ research suggests that there is a high correlation between tactile defensiveness, hyperactivity and distractibility in children with sensory integrative dysfunction and specific learning disabilities (Ayres, 1964; Ayres, 1965; Ayres, 1966a; & Ayres, 1966b). Although one cannot state that correlation implies causation, this research does help understand what types of sensory integration problems may be seen in individuals with developmental disabilities. The OT SLIDE Program will incorporate various
sensory strategies to help the students with developmental disabilities remain more engaged and thereby less distracted in their school environment.

Ayres (1972b) states that repetition is important for the firm establishment of neural connections, which she suggests are formed and maintained through therapy. By capitalizing on already existing, dormant neural pathways the therapist helps facilitate the activation of neural pathways necessary for higher level functioning. In coordination with the fifth principle, more mature and complex behaviors will then be able to develop as the individual improves neural connections and becomes more capable of having an adaptive response during a simpler task.

One study assessed the effects of an occupational therapy intervention emphasizing sensory integration with five preschool children that have autism. The researchers utilized an AB design comparing the nonengagement, mastery play, and interaction with others during a three-week baseline period and a 10-week intervention period. In order to assess these areas, the researchers videotaped the students for 10 minutes during a free play period. They analyzed the students’ play behaviors in increments of 30-seconds. Four of the five children displayed decreased frequency of nonengaged behavior, and three of the children demonstrated increased frequency of mastery. The researchers suggest that the increases in mastery play may relate to improved motor planning such as that which could result from the improvement in one’s latent neural pathways or reduced sensory defensiveness (Case-Smith & Bryan, 1999).

The programming will involve some daily repetition that will be used to attempt to solidify the motor pattern in the movement repertoire of the students. The students will engage in occupations that target sensory stimulation such as balancing on a therapy ball, swinging on a therapy swing, playing Velcro catch, crab walking, bear crawling, along with others. More specifically, one occupation will involve each student sitting on a therapy ball and balancing. In
addition, they will be holding onto a lycra sheet that is also being held onto by another student balancing on a therapy ball ten feet away. This occupation will involve the activation of their core muscles, vestibular systems, and upper extremity strength all-the-while requiring teamwork. Kinnealey and Miller (1993) state the importance of using linear movements in order to develop vestibular proprioceptive responses in the neck, arms, and back. Furthermore, when an individual is displaying a hyperreactive vestibular system then an occupational therapist should utilize slow, predictable, and rhythmic movements in a linear pattern to help the child calm their sensory system (Kinnealey & Miller, 1993). Therefore, as a warm-up for OT SLIDE Program, it would be appropriate for the teacher, aide, and OT to facilitate linear rocking patterns while the students’ lie prone on the therapy ball. This movement pattern is especially important if students note that they are running “too fast” at the beginning of the program for that day. If any students are displaying hyporeactive vestibular systems which could be displayed through what would appear as inactivity, then they should engage in quick disorganized movement patterns to help wake up their sensory systems (Kinnealey & Miller, 1993).

The OT SLIDE Program will rely heavily upon what is commonly thought of as sensory equipment (swings, scooterboards, slides, etc.). The swinging equipment and occupations require the children to process sensory stimulation through a variety of senses. Multisensory integration refers to the brain’s ability to integrate information from more than one sensory system simultaneously (Miller et al., 2007). The flat board swings allow the student to lie prone, supine, or to sit upright while swinging. If the student is lying prone, then they must work to extend their neck and flex their shoulders in order to keep them from touching the ground. These actions are difficult for individuals with poor postural stability and under-developed motor skills but are very beneficial in strengthening the muscles of the neck, back, shoulders, and upper arms.
Throughout the process of swinging, the body is receiving sensory information about joint position, relation to the pull of gravity, visual information as the world moves around the child, auditory information from the OT and other students, and tactile information as the individual’s body touches the swing and any other items with their hands. Therefore, this occupation does much more than increase strength and aid with posture; it allows the individual the opportunity to practice integrating multisensory information and learn how to process information from their ever-changing environment. These multisensory occupations correlate with the fourth principle of the theory of sensory integration, which states that the brain’s organization and one’s adaptive behaviors are interactive and therefore they influence each other. As the brain integrates sensory information, one is able to make adaptive responses and research shows that children with disabilities respond to multisensory stimulation differently than unimodal stimulation (Brett-Green, Miller, Schoen, & Nielson, 2010).

**Programming Example**

*MoCI classroom occupations:*

<table>
<thead>
<tr>
<th>Day of the Week</th>
<th>Curriculum Topic(s)</th>
<th>Program Occupation(s)</th>
<th>Materials needed</th>
</tr>
</thead>
<tbody>
<tr>
<td>Monday</td>
<td>Welcome to the OT SLIDE Program</td>
<td>Create nametags with the help of the OT, teachers, and educational aides.</td>
<td>Nametags</td>
</tr>
<tr>
<td></td>
<td>Introduction to arousal levels</td>
<td>Demonstrate the use of the arousal levels by matching pictures of “too slow,” “just-right,” and “too fast.”</td>
<td>Tape</td>
</tr>
<tr>
<td></td>
<td>Getting to know each other</td>
<td>With remaining time, engage in a group drawing or finger painting.</td>
<td>Markers</td>
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<td></td>
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<td></td>
<td>Pictures of arousal levels</td>
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<td></td>
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<td></td>
<td>Large sheet of paper (big enough for 3-4 children work on the same page)</td>
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<tr>
<td></td>
<td></td>
<td></td>
<td>Finger paint/markers</td>
</tr>
<tr>
<td>Day</td>
<td>Activity</td>
<td>Equipment</td>
<td>Notes</td>
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</tr>
<tr>
<td>Wednesday</td>
<td>Help students match arousal levels</td>
<td>With the help of the OT, teachers, and or educational aide: match the arousal level cards to each other. Also, match their nametag to a sheet with their name on it after engaging in short obstacle course. Help children play with the various equipment pieces. Attempt to facilitate responses and choices from the children as they play.</td>
<td>Nametags, Sheets with their names on them, Obstacle course materials: balance beam, cushions/mats to climb over, and tunnel(s) to crawl through/Sensory equipment</td>
</tr>
<tr>
<td>Friday</td>
<td>Help students match arousal levels</td>
<td>With the help of the OT, teachers, and or educational aide: match the arousal level cards to each other. Also, match their nametag to a sheet with their name on it after engaging in short obstacle course. Help children play with the various equipment pieces. Attempt to facilitate responses and choices from the children as they play.</td>
<td>Nametags, Sheets with their names on them, Obstacle course materials: balance beam, cushions/mats to climb over, and tunnel(s) to crawl through/Sensory equipment</td>
</tr>
<tr>
<td>Monday</td>
<td>Counting Number recognition</td>
<td>Students identify arousal levels. Occupation 1: Heavy work tasks including wall pushups, crunches, and theraband exercises. Occupation 2: Swinging while holding onto bolster swing. Students will count out loud to see if they can hang on for 10 seconds.</td>
<td>Therabands (latex free), Bolster swing</td>
</tr>
<tr>
<td>Wednesday</td>
<td>Counting Number recognition</td>
<td>Students identify arousal levels.</td>
<td>Platform swing, Handled rope</td>
</tr>
<tr>
<td>Day</td>
<td>Activity 1</td>
<td>Activity 2</td>
<td>Materials</td>
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<tr>
<td>Friday</td>
<td>Students identify arousal levels.</td>
<td>Students bear crawl to locations around the room and crawl to the numbers</td>
<td>Construction paper</td>
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<tr>
<td></td>
<td>Occupation 1: Crabwalk to gym. There, Crabwalk to the numbered foam tiles</td>
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<td>Markers</td>
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<td></td>
<td>placed on the floor in order (1-10).</td>
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<td></td>
<td>Occupation 2: Slide down ramp on scooterboard while sitting upright or while</td>
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<td>prone depending on the student’s tolerance. Count the number of times</td>
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<tr>
<td></td>
<td>a child goes down the ramp.</td>
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<tr>
<td>Monday</td>
<td>Students identify arousal levels.</td>
<td>Students identify arousal levels.</td>
<td>Numbered foam floor tiles</td>
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<tr>
<td></td>
<td>Occupation 1: Identify the number of items on a large sheet of paper being</td>
<td></td>
<td>Scooterboards</td>
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<tr>
<td></td>
<td>help by OT or aide while swinging prone on a platform swing.</td>
<td></td>
<td>Scooterboard ramp</td>
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<td></td>
<td>Occupation 2: Hopscotch using large squares with large numbers taped inside</td>
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<td></td>
<td>them on the floor. Attempt</td>
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<tr>
<td>Day</td>
<td>Activity</td>
<td>Details</td>
<td>Materials</td>
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<tr>
<td>Wednesday</td>
<td>Counting Subitizing (instantly seeing ‘how many?’)</td>
<td>Students identify arousal levels. Occupation 1: Scooterboard occupation requiring the students to pull each other while they are prone on a scooterboard. If students are not able to pull each other independently, OT or aide should use hand-over-hand to help the student maintain a grasp on the rope handle. While pulling, the students should attempt to count out loud. Occupation 2: Utilize a suspended rope ladder and have children attempt to climb the rungs. Once at the time (or as high as a child will go), have the student identify the number of beanie babies that the OT or aide is holding.</td>
<td>Scooterboards, Rope with a handle on the end, Suspendable rope ladder, Beanie babies or toy animals</td>
</tr>
<tr>
<td>Friday</td>
<td>Counting Subitizing (instantly seeing ‘how many?’)</td>
<td>Students identify arousal levels. Occupation 1: Passive rocking on large rockerboard while lying supine. During the rocking, facilitate counting out loud from 1-10. Occupation 2: Bear crawling to the end of the hallway, identifying the number of animals in the “zoo.” Then, Create a “zoo” using construction paper and building toys, Toy vegetables (can also be made out of construction paper)</td>
<td>Rockerboard, Toy animals, Toy vegetables</td>
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<tr>
<td>Day</td>
<td>Activity</td>
<td>Materials</td>
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<tr>
<td>Monday</td>
<td>Wheelbarrow walking with a partner or the aide back down the hallway and identifying the number of vegetables in the “garden.”</td>
<td>Create a “garden” using brown and green construction paper</td>
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<td></td>
<td>Students identify arousal levels.</td>
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<td></td>
<td>Occupation 1: Rhythmic swinging on platform swing while saying the alphabet</td>
<td>Platform swing</td>
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<td></td>
<td>Occupation 2: Pulling a friend on a scooterboard while he or she is sitting upright. The student will pull their friend while the student on the scooterboard picks up the letters of the alphabet off of the floor.</td>
<td>Scooterboards</td>
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<td></td>
<td></td>
<td>A rope to pull student on scooterboard</td>
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<tr>
<td>Wednesday</td>
<td>Students identify arousal levels.</td>
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<td></td>
<td>Occupation 1: Utilize heavy work tasks including knee push-ups, crunches, and light weight exercises all-the-while stating the alphabet.</td>
<td>Light weights (2-5 lbs.)</td>
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<td>Occupation 2: Swinging on a platform swing prone while reaching for items with the letters of the alphabet on them. For example, a beanie baby with the letter “A” on it. After grabbing the correct letter, placing the beanie baby in a bucket also with the letter “A” on it.</td>
<td>Platform swing</td>
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<td>Occupation 3: While sitting on therapy ball or Disc’o’sit, use crayons, markers, or ink blotters to fill in stencils on</td>
<td>Beanie babies</td>
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<td></td>
<td></td>
<td>Buckets</td>
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<td></td>
<td>Therapy balls</td>
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<td></td>
<td></td>
<td>Disc’o’sit</td>
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<td></td>
<td>Crayons, markers, and/or ink blotters</td>
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<tr>
<td>Day</td>
<td>Activity</td>
<td>Description</td>
<td>Materials</td>
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<tr>
<td>Friday</td>
<td>Letter recognition</td>
<td>Students identify arousal levels.</td>
<td>Foam letter floor tiles</td>
</tr>
<tr>
<td></td>
<td>Name recognition</td>
<td>Occupation 1: Jumping occupations (i.e. jumping jacks, jumping from letter to letter, and jumping rope). Also, the students could jump to the piece of paper with their name on it.</td>
<td>Jump rope, Trays</td>
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<td></td>
<td></td>
<td>Occupation 2: Tracing letters in different textured materials. Trays of salt, sand, dried kidney beans, and shaving cream could be used.</td>
<td>Salt, sand, dried kidney beans, and shaving cream</td>
</tr>
<tr>
<td>Monday</td>
<td>Shapes</td>
<td>Students identify arousal levels.</td>
<td>Playground slides</td>
</tr>
<tr>
<td></td>
<td>Shape recognition</td>
<td>Occupation 1: Prone down playground slides after picking the correct shape provided choices</td>
<td>Shape cards, Shape bean bags, Therapy ball</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Occupation 2: Rock forward and backward on therapy ball while reaching for shape bean bags on the floor. Identify shapes upon grabbing them and then place them into a bucket.</td>
<td></td>
</tr>
<tr>
<td>Wednesday</td>
<td>Shapes</td>
<td>Students identify arousal levels.</td>
<td>Tug-o-war rope</td>
</tr>
<tr>
<td></td>
<td>Shape recognition</td>
<td>Occupation 1: Tug-o-war for heavy proprioceptive input.</td>
<td>Shapes puzzles</td>
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<tr>
<td></td>
<td></td>
<td>Occupation 2: Finding shapes in buckets of bird seed, kidney beans, and/or rice. Then placing the puzzle piece shapes into the puzzle board.</td>
<td>Buckets of bird seed, kidney beans, and rice, Therapy balls, Disc’o’sit, Crayons, markers,</td>
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<tr>
<td>Day</td>
<td>Activity</td>
<td>Description</td>
<td>Materials</td>
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<tr>
<td>Friday</td>
<td>Shapes</td>
<td>Students identify arousal levels. Occupation: Obstacle course! Begin course by grabbing a shape puzzle piece. Then climb over cushions, crawl through the lycra tunnel, walk on the balance beam, and then ride the scooterboard to the puzzle where the student will place his or her puzzle piece.</td>
<td>Shapes puzzle, Cushions/mats, Lycra tunnel, Balance beam, Scooterboard</td>
</tr>
<tr>
<td>Monday</td>
<td>Colors</td>
<td>Students identify their arousal level. Occupation 1: Bear crawl around the room and identify the colors that are on the floor. Either identifies the colors by pointing to the right choice or by saying the color out loud. Occupation 2: While prone on a therapy ball, utilize large tweezers to pick colored tiles out of a bucket of dried kidney beans. State the color out loud or by pointing following the retrieval of a colored tile.</td>
<td>Colored construction paper, Color identification cards, Large tweezers, Colored puzzle pieces/tiles, Bucket of kidney beans</td>
</tr>
<tr>
<td>Wednesday</td>
<td>Colors</td>
<td>Students identify their arousal level. Occupation 1: Use hippity-hop balls down to the gymnasium. Upon getting there, identify the colors of hippity-hop balls.</td>
<td>Hippity-hop balls, Parachute, Colored balls</td>
</tr>
<tr>
<td>Friday</td>
<td>Colors</td>
<td>Students identify their arousal level.</td>
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<td>Occupation 1: Sorting colored pom poms using tweezers and a metal muffin baking sheet while balancing upright or while prone on a therapy ball.</td>
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<td>Occupation 2: Wheelbarrow walking around the room to the colored sheet stated by the OT. (OT says, “blue,” and the students will wheelbarrow walk to the blue sheet of paper taped on the floor).</td>
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<tr>
<td>Monday</td>
<td>Sorting</td>
<td>Students identify their arousal level</td>
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<td></td>
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<td>Occupation 1: Bunny hop down to the gym. Then engage in movement occupations including light jogging and balancing on the lines on the floor. During these occupation, have each child pick up items of a certain color, and then run to the opposite side of the gym</td>
<td></td>
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</table>

<table>
<thead>
<tr>
<th>Monday</th>
<th>Sorting</th>
<th>Students identify their arousal level</th>
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<tbody>
<tr>
<td></td>
<td></td>
<td>Occupation 1: Bunny hop down to the gym. Then engage in movement occupations including light jogging and balancing on the lines on the floor. During these occupation, have each child pick up items of a certain color, and then run to the opposite side of the gym</td>
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<table>
<thead>
<tr>
<th>Semantic Content</th>
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<tbody>
<tr>
<td>the hippity-hop balls.</td>
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<tr>
<td>Occupation 2: Parachute games requiring the children to keep balls of different colors in the parachute. Identify the colors on the parachute and of the balls being used. Then, have the children pull each other while one sits on the parachute on the floor. Two students may need to work together to pull another student.</td>
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<tr>
<td>Friday</td>
<td>Colors</td>
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<tr>
<td>Monday</td>
<td>Sorting</td>
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<table>
<thead>
<tr>
<th>Material</th>
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</thead>
<tbody>
<tr>
<td>Pom poms</td>
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<tr>
<td>Tweezers</td>
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<tr>
<td>Metal muffin baking sheet</td>
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<tr>
<td>Therapy ball</td>
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<tr>
<td>Colored construction paper</td>
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<tr>
<td>Sortable items (e.g. poker chips, colored cards, cut up pieces of construction paper, bean bags, colored therapy frogs, cut up paint cards from hardware or paint stores)</td>
<td></td>
</tr>
<tr>
<td>Containers to</td>
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</tbody>
</table>
and place it in its appropriate container.

Occupation 2: Using the mats in the gym, create a ‘student sandwich.’ Place the mat on the floor, then have the student lie down, then place another mat on top of the student. If necessary, the aide or the OT could apply light pressure on the top mat or have another child lay on the top mat (if they are light enough). While lying down like this, have the student in the sandwich sort poker chips by their color.

<table>
<thead>
<tr>
<th>Day</th>
<th>Activity</th>
<th>Item Use</th>
</tr>
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<tbody>
<tr>
<td>Wednesday</td>
<td>Sorting</td>
<td>Students identify their arousal level</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Occupation 1: Balance on a balance board. While balancing, catch bean bags and then throw them into a bucket matching the color of the bean bag.</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Occupation 2: Have child pick up a card with either an animal or a person on it. Then, have them go down a ramp while prone on scooterboard. When they stop, they should place the card under the appropriate heading of ‘animal’ or ‘person.’</td>
</tr>
<tr>
<td>Friday</td>
<td>Sorting</td>
<td>Students identify their arousal level</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Occupation 1: Heavy work occupations including wall</td>
</tr>
</tbody>
</table>

- Floor mats
- Poker chips
- Balance boards
- Bean bags of various colors
- Containers matching the color of the bean bags (e.g. sandcastle buckets, painted Tupperware dishes, painted shoe boxes, etc.)
- Scooterboard
- Animal and person cards
- Container with the ‘animal’ or ‘person’ labels
- Light weights
- Wooden shapes possibly from a wooden puzzle or
<table>
<thead>
<tr>
<th>Day</th>
<th>Cutting skills</th>
<th>Students identify their arousal level</th>
</tr>
</thead>
<tbody>
<tr>
<td>Monday</td>
<td></td>
<td>Occupation 1: Hanging from a trapeze bar while being gently pushed</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Occupation 2: Wheelbarrow walk to the end of the room and touch the correct day of the week when given 2-3 options to choose from.</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Occupation 3: Have students cut through play dough using a variety of scissors to try to find the scissors that are most appropriate for each student.</td>
</tr>
<tr>
<td>Wednesday</td>
<td></td>
<td>Students identify their arousal level</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Occupation 1: Gently rock on rockerboard and have the children play with squeeze toys (e.g. squirt guns, spray bottles, squeezy bubble blower, fidgety toys, playdough,</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Occupation 2: Place a large therapy ball underneath a mat near the wall. Then tape or Velcro items to the wall. Have the child walk or climb up the mat and select a card with a shape on it off the wall. After selecting the item, have the child walk down the mat and place it into the appropriate category.</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Occupation 3: Have students cut through play dough using a variety of scissors to try to find the scissors that are most appropriate for each student.</td>
</tr>
</tbody>
</table>

- **Monday**: Cutting skills
  - Students identify their arousal level
  - Occupation 1: Hanging from a trapeze bar while being gently pushed
  - Occupation 2: Wheelbarrow walk to the end of the room and touch the correct day of the week when given 2-3 options to choose from.

- **Wednesday**: Cutting skills
  - Students identify their arousal level
  - Occupation 1: Gently rock on rockerboard and have the children play with squeeze toys (e.g. squirt guns, spray bottles, squeezy bubble blower, fidgety toys, playdough,
<table>
<thead>
<tr>
<th>Friday</th>
<th>Cutting skills</th>
<th>Students identify their arousal level</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Days of the week</td>
<td></td>
</tr>
</tbody>
</table>

Occupation 1: Utilize a suspended tire swing and swing the child forward and back. While swinging, attempt to have student repeat the days of the week.

Occupation 2: Have students bear crawl around the room and pick up the sheets of paper that have the days of the week on them in the order of the week (Sunday–Saturday).

Occupation 3: Have the students cut out the days of the week from a sheet of paper.

<table>
<thead>
<tr>
<th>Friday</th>
<th>Tire swing</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Sheets with the days of the week on them</td>
</tr>
<tr>
<td></td>
<td>Sheet of paper with the days of the week on them</td>
</tr>
</tbody>
</table>

- Blowers, fidgety toys, playdough, or stress balls.
- While rocking, also have them select the correct day of the week.

Occupation 2: Have children lie prone over a therapy ball and use large tongs to pick up marshmallows, cotton balls, little animals, or other items and place them into containers. (The items that you require them to pick up should be appropriately matcher to how well they are able to use the tongs).

Occupation 3: Have students cut through playdough, foam sheets, construction paper, or multiple sheets of paper to ensure adequate proprioceptive feedback.

<table>
<thead>
<tr>
<th>Friday</th>
<th>Therapy ball(s)</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Large tongs</td>
</tr>
<tr>
<td></td>
<td>Small items (e.g. marshmallows, cotton balls, little animals, Legos, etc.)</td>
</tr>
<tr>
<td></td>
<td>Scissors (multiple types)</td>
</tr>
<tr>
<td></td>
<td>Playdough</td>
</tr>
<tr>
<td></td>
<td>Construction paper</td>
</tr>
<tr>
<td></td>
<td>Foam sheets (available at craft stores)</td>
</tr>
</tbody>
</table>

- Scissors (multiple kinds)
- Glue
- Therapy ball or disc’o’sit
paper. Then they will glue them in the appropriate order. This occupation can be made more interesting by having them sit on a therapy ball or disc’o’sit.

The program utilizes a variety of sensory-based techniques to elicit overall sensory organization while reinforcing the curriculum topics. The program for the MoCI classroom also directly addresses the occupational therapy goals outlined by the occupational therapist. For example, some of the commonly seen occupational therapy goals designated to students in the MoCI classroom include: stay on task for 3-5 minutes, trace simple stencils with assistance, attempt to use fine motor tools (i.e. tongs, tweezers, scissors, etc.), participate in bilateral tasks, rotate objects in his or her hand, utilize a tripod grasp when coloring or writing, engage in games or activities for 5-8 minutes, and demonstrate success with three perceptual/fine motor skills. All of these goals are addressed by more than one occupation being engaged in throughout the program. Therefore, the program occupations help the occupational therapists target the occupational therapy goals and the curriculum topics through the use of the sensory occupations.

**SCI classroom occupations:**

<table>
<thead>
<tr>
<th>Day of the Week</th>
<th>Curriculum Topic(s)</th>
<th>Program Occupation(s)</th>
<th>Materials needed</th>
</tr>
</thead>
</table>
| Monday          | Welcome to the OT SLIDE Program  
 Introduction to arousal levels  
 Getting to know each other | Create nametags with the help of the OT, teachers, and educational aides.  
 Demonstrate the use of the arousal levels by matching pictures of “too slow,” “just-right,” and “too fast.”  
 With remaining time, engage in a group | Nametags  
 Tape  
 Markers  
 Pictures of arousal levels  
 Large sheet of paper (big enough for 3-4 children work on the same page) |
<table>
<thead>
<tr>
<th>Day</th>
<th>Activity</th>
<th>Description</th>
<th>Equipment</th>
</tr>
</thead>
<tbody>
<tr>
<td>Wednesday</td>
<td>Staff selects students’ arousal levels (can attempt to guide student to match them on his or her own)</td>
<td>Students will engage in a short obstacle course. Then the staff will help them match arousal level cards. They will also attempt to match their nametag to a sheet with their name on it.</td>
<td>Nametags, Sheets with their names on them, Obstacle course materials: balance beam, cushions/mats to climb over, and tunnel(s) to crawl through</td>
</tr>
<tr>
<td></td>
<td>Identify their name</td>
<td>Help children play with the various equipment pieces.</td>
<td>Sensory equipment</td>
</tr>
<tr>
<td></td>
<td>Learning the equipment</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Selecting tasks or equipment</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>Attempt to facilitate responses and choices from the children as they play.</td>
<td></td>
</tr>
<tr>
<td>Friday</td>
<td>Staff selects students’ arousal levels (can attempt to guide student to match them on his or her own)</td>
<td>Students will engage in a short obstacle course. Then the staff will help them match arousal level cards. They will also attempt to match their nametag to a sheet with their name on it.</td>
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<td></td>
<td>Learning the equipment</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Selecting tasks or equipment</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>Attempt to facilitate responses and choices from the children as they play.</td>
<td></td>
</tr>
<tr>
<td>Monday</td>
<td>Colors</td>
<td>Staff identifies students’ arousal levels.</td>
<td>Scooterboards, Handled rope, Balloons (latex free)</td>
</tr>
<tr>
<td></td>
<td>Color recognition</td>
<td>Occupation 1: Scooterboard rides down the hallway. Depending on the individual student’s abilities, they can sit upright, lie prone, or lie</td>
<td>Cards with colors on them so that the students can attempt to match the colors</td>
</tr>
</tbody>
</table>
supine.

Occupation 2: Balloon volleyball requiring the students to keep the balloons in the air using their arms. Attempt to have students identify colors of individual balloons. Also, have the student place the balloons into bins labeled by color.

<table>
<thead>
<tr>
<th>Wednesday</th>
<th>Colors</th>
<th>Color recognition</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Staff identifies students’ arousal levels.</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Occupation 1: Swing while prone, supine, or sitting upright on a platform swing while identifying colored sheets of paper on the floor.</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Occupation 2: Have the students sit on the floor, and roll a ball back and forth to each other. As a child receives the ball, have them attempt to identify the color of the ball.</td>
<td></td>
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</tbody>
</table>

<table>
<thead>
<tr>
<th>Friday</th>
<th>Colors</th>
<th>Color recognition</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Staff identifies students’ arousal levels.</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Occupation 1: Mini-obstacle course requiring students to climb through a tent of ball-pit balls, crawl through a tunnel, and jump to a finish line.</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Occupation 2: After the</td>
<td></td>
</tr>
</tbody>
</table>
obstacle course, have the students sit upright on appropriately sized therapy balls. While sitting upright, have them identify and sort ball-pit balls by color.

<table>
<thead>
<tr>
<th>Monday</th>
<th>Colors</th>
<th>Color recognition</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td>Staff identifies students’ arousal levels.</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Occupation 1: For those in a wheelchair, they will be pushed quickly down the hallway to the gym. For those who can walk, they will attempt to run to the gym.</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Occupation 2: Red light green light while in the gym.</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Occupation 3: Lastly, while in the gym, have the students attempt to fish out ping pong balls of different colors from buckets of water. Have them verbally identify the colors of the ping pong balls or place them into containers by their color.</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Red and green pieces of construction paper</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Buckets</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Water</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Small fishing nets often referred to as bait nets</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Ping pong balls</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Markers or paint to color the ping pong balls</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Containers</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Wednesday</th>
<th>Colors</th>
<th>Color recognition</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td>Staff identifies students’ arousal levels.</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Occupation 1: Swing while prone, supine, or sitting upright on a platform swing while identifying colored sheets of paper on the floor</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Platform swing</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Colored sheets of construction paper</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Containers</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Rice, dried kidney beans, or bird seed</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Small colored items to...</td>
</tr>
<tr>
<td>Day</td>
<td>Activity</td>
<td>Materials</td>
</tr>
<tr>
<td>--------</td>
<td>-------------------</td>
<td>-------------------------------------------------------------------------------------------------------------------------------------------</td>
</tr>
</tbody>
</table>
| Monday | Counting Numbers 1-10 | Staff identifies students’ arousal levels.  
Occupation 1: Begin with scooterboard rides. Then, engage in scooterboard bowling. Have the students lie down on the scooterboards.  
Occupation 2: Utilize containers full of rice, dried kidney beans, or sunflower seed and have the students search for hidden items of different colors. When they find an item, have them attempt to name or match the color of the item.  
Scooterboards  
Bowling pins  
Handled rope  
Foam floor squares with numbers on them |
| Friday | Colors Color recognition | Staff identifies students’ arousal levels.  
Occupation 1: Swing in hammock swing with weighted items gently placed on their lap (i.e. weighted blanket or weighted vest)  
Occupation 2: Have the children don painter’s shirts or old scrap t-shirts. Then, have the children sit on a therapy ball or on a disc’o’sit around the table. On the table place a glob of whipped cream one or two drops of food coloring. Have the child play in the whipped cream with their hands. Attempt to identify the various colors of whipped cream around the table.  
Hammock swing  
Weighted blankets or weighted vests  
Old clothes or painter’s shirts  
Disc’o’sit  
Therapy balls  
Whipped cream  
Food coloring  
Cleaning materials to ensure that the food coloring does not stain. |


<table>
<thead>
<tr>
<th>Day</th>
<th>Activity</th>
<th>Description</th>
<th>Equipment</th>
</tr>
</thead>
<tbody>
<tr>
<td>Wednesday</td>
<td>Counting Numbers 1-10</td>
<td>Staff identifies students’ arousal levels.</td>
<td>Platform swing</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Occupation 1: Swing on platform swing while counting from 1 to 10 repeatedly.</td>
<td>Smartboard</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Occupation 2: Watch “Numbers Song Let's Count 1-10” on the Smartboard. The video can be found on youtube and requires the students to move around and jump while learning the numbers.</td>
<td><a href="http://www.youtube.com">www.youtube.com</a> Youtube user: DreamEnglishKids</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>“Numbers Song Let’s Count 1-10”</td>
</tr>
<tr>
<td>Friday</td>
<td>Counting Numbers 1-10</td>
<td>Staff identifies students’ arousal levels.</td>
<td>Floor-mats</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Occupation 1: Mini-obstacle course requiring students to climb over a cushion mountain, through a tunnel, and walk on a thick balance beam. During each run, the student will take a card with a number (from 1-5) on it through the</td>
<td>Cushions</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>Therapy ball (to help construct mountain if necessary)</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>Tunnel</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>Balance beam (thick)</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>Numbered cards</td>
</tr>
<tr>
<td>Day</td>
<td>Activity</td>
<td>Equipment/Instructions</td>
<td></td>
</tr>
<tr>
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<td>----------------------------------------------------------------------------------------</td>
<td></td>
</tr>
<tr>
<td>Monday</td>
<td>Counting Numbers 1-10</td>
<td>Staff identifies students’ arousal levels.</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>Occupation 1: Teeter-totter task involving counting out loud every time the students go up or down.</td>
<td></td>
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<tr>
<td></td>
<td></td>
<td>Occupation 2: “Crash the can” occupation. Involves child climbing to the top of a slide (most likely with physical assistance), then going down the slide on a scooterboard into a stack of cans. The students can then count the number of cans that they knock over. If the student is not able to go up the slide at all, the OT or aide could place them into their wheelchair and run them into the stack of cans.</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>Teeter-totter</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>Cans (e.g. empty soup can, pop cans, coffee cans, water bottles, pop bottles, etc.)</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>Scooterboards</td>
<td></td>
</tr>
<tr>
<td>Day</td>
<td>Activity</td>
<td>Details</td>
<td>Supplies</td>
</tr>
<tr>
<td>----------</td>
<td>---------------------------------</td>
<td>--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------</td>
<td>------------------------------------</td>
</tr>
</tbody>
</table>
| Wednesday| Counting Numbers 1-10           | Staff identifies students’ arousal levels.  
Occupation 1: Crash landings. The OT and aide will facilitate safe crashing into a pile of cushions, mats, and/or bean bags.  
Occupation 2: Use the piles of cushions or bean bags as seats while the students begin to watch “Numbers Song Let’s Count 1-10” on the Smartboard. As the song goes on, the students can move around and jump while learning the numbers. | Bean bags, cushions, floor-mats     |
|          |                                 |                                                                                                                                                                                                     | Step ladder (to jump from with the help of the OT or aide) |
|          |                                 |                                                                                                                                                                                                     | www.youtube.com                    |
|          |                                 |                                                                                                                                                                                                     | Youtube user: DreamEnglishKids     |
|          |                                 |                                                                                                                                                                                                     | “Numbers Song Let’s Count 1-10”    |
| Friday   | Counting Numbers 1-10           | Staff identifies students’ arousal levels.  
Occupation 1: Parachute tasks involving the students attempting to hang onto the parachute as they move it together. Throw ball-pit balls into the parachute as the student shake it. Count out loud with each ball added.  
Occupation 2: Students will play in a ball pit and attempt to find large foam numbers and identify them once they are found. | Parachute                          |
|          |                                 |                                                                                                                                                                                                     | Ball-pit balls                     |
|          |                                 |                                                                                                                                                                                                     | Ball-pit                           |
|          |                                 |                                                                                                                                                                                                     | Foam numbers                       |
| Monday   | Letter recognition ABC’s        | Staff identifies students’ arousal levels.  
Occupation 1: Swing on Platform swing  
Occupation 2: Students will play in a ball pit and attempt to find large foam numbers and identify them once they are found. | Platform swing                     |
<p>|          |                                 |                                                                                                                                                                                                     | Small beach ball                   |</p>
<table>
<thead>
<tr>
<th>Day</th>
<th>Activity Description</th>
<th>Materials</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>platform swing while saying the ABC’s.</td>
<td>Cone</td>
</tr>
<tr>
<td></td>
<td>Occupation 2: “Beach ball drop.” Have the student stand on the top of a scooterboard ramp, and knock a small beach ball off of a cone. The ball will roll into a basket at the bottom of the ramp labeled A, B, or C. The students will then attempt to identify or match the letter on the basket.</td>
<td>Scooterboard ramp, Baskets (e.g. laundry baskets work well)</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Construction paper and markers to create interchangeable labels for the baskets</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Alphabet cards if the students need to attempt to match the letters</td>
</tr>
<tr>
<td>Wednesday</td>
<td>Letter recognition ABC’s</td>
<td>Staff identifies students’ arousal levels.</td>
</tr>
<tr>
<td></td>
<td>Occupation 1: Scooterboard rides either while prone or while sitting upright depending on the student’s abilities. Recite ABC’s out loud during the scooterboard ride.</td>
<td>Scooterboards, Handled rope, Therapy balls, Smartboard, <a href="http://www.youtube.com">www.youtube.com</a> Youtube user: DreamEnglishKids</td>
</tr>
<tr>
<td></td>
<td>Occupation 2: Have students sit upright or lie prone on therapy balls while watching “ABC Song for Kids: Easy and Fun Version” on the Smartboard.</td>
<td>Song: “ABC Song for Kids” and “Jumping ABC Song”</td>
</tr>
<tr>
<td></td>
<td>Occupation 3: Have the students stand up for the next ABC song on the Smartboard. Watch the “Jumping ABC Song” on the Smartboard.</td>
<td></td>
</tr>
<tr>
<td>Friday</td>
<td>Letter recognition ABC’s</td>
<td>Staff identifies students’ arousal levels.</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Cushions, floor-mats, and bean bags</td>
</tr>
<tr>
<td>Day</td>
<td>Activity</td>
<td>Items Needed</td>
</tr>
<tr>
<td>-----------</td>
<td>----------------------------------------------</td>
<td>--------------------------------------------------</td>
</tr>
<tr>
<td>Monday</td>
<td>Letter recognition ABC’s</td>
<td>Staff identifies students’ arousal levels.</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Occupation 1: Utilize bolster swing and try to</td>
</tr>
<tr>
<td></td>
<td></td>
<td>have students balance and hold on while sitting</td>
</tr>
<tr>
<td></td>
<td></td>
<td>in bolster swing.</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Once the students appears to be situated on the</td>
</tr>
<tr>
<td></td>
<td></td>
<td>bolster swing, recite the ABC’s out loud while</td>
</tr>
<tr>
<td></td>
<td></td>
<td>swinging.</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Occupation 2: Use large Tumbleform</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>Items that students can jump over on the floor.</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Tables or tunnels (to crawl under or through).</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Alphabet puzzle (preferably the wooden type of</td>
</tr>
<tr>
<td></td>
<td></td>
<td>puzzle).</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Large container or a sand box.</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Sand</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Mini-shovels and plastic cups.</td>
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<tr>
<td></td>
<td></td>
<td>Plastic letters.</td>
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</table>

Occupation 1: Mini-obstacle course requiring the students to climb over cushions, jump over items on the floor, and crawl under tables or other items. At the beginning of the obstacle course, the student will take an alphabet letter from a puzzle. When at the end of the obstacle course, the student will place the letter into the proper place on the puzzle.

Occupation 2: Use a large container full of sand to hide small plastic letters. Provide the students with mini-shovels and plastic cups to try and dig in the sand to find the letters. Also, encourage the students to run the sand through their hands and fingers.
<table>
<thead>
<tr>
<th>Day</th>
<th>Activity</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Wednesday</td>
<td>Letter recognition ABC’s</td>
<td>Staff identifies students’ arousal levels.</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Occupation 1: Have the student swing in a hammock swing while reciting the ABC’s out loud.</td>
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<td></td>
<td></td>
<td>Occupation 2: Have the students straddle the Tumbleform bolster while watching “ABC Song for Kids: Easy and Fun Version” on the Smartboard.</td>
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<td></td>
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<td>Occupation 3: Have the students stand up for the next ABC song on the Smartboard. Watch the “Jumping ABC Song” on the Smartboard.</td>
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<tr>
<td></td>
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<td>Hammock swing</td>
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<td></td>
<td>Tumbleform bolster</td>
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<td></td>
<td>Smartboard</td>
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<td><a href="http://www.youtube.com">www.youtube.com</a></td>
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<tr>
<td></td>
<td></td>
<td>Youtube user: DreamEnglishKids</td>
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<tr>
<td></td>
<td></td>
<td>Song: “ABC Song for Kids” and “Jumping ABC Song”</td>
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<tr>
<td>Friday</td>
<td>Letter recognition ABC’s</td>
<td>Staff identifies students’ arousal levels.</td>
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<tr>
<td></td>
<td></td>
<td>Occupation 1: Attempt heavy work occupations including: floor push-ups, wall push-ups, sit-ups, superman poses, theraband pulls, or pushing weighted laundry baskets.</td>
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<tr>
<td></td>
<td></td>
<td>Occupation 2: Make a large bin full of dried kidney beans. Have the students try to dig out</td>
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<tr>
<td></td>
<td></td>
<td>Floor-mats</td>
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<td></td>
<td></td>
<td>Laundry baskets with items in them</td>
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<tr>
<td></td>
<td></td>
<td>Large container</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Dried kidney beans</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Plastic letters</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Large plastic tongs</td>
</tr>
<tr>
<td>Day</td>
<td>Activity</td>
<td>Details</td>
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<td>-----------</td>
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<td>-------------------------------------------------------------------------</td>
</tr>
<tr>
<td>Monday</td>
<td>Colors</td>
<td>Staff identifies students’ arousal levels.</td>
</tr>
<tr>
<td></td>
<td>Color recognition</td>
<td>Occupation 1: Students will swing on a platform swing while prone or while sitting upright. Occupation 2: Students will play a modified version of “Twister.” They will each spin the arrow, and jump to whatever color it lands on. Each student should get several turns to spin and jump to a color. Occupation 3: If there is time, the students will sort ball-pit balls by placing them into a bin or container that matches the color of the ball.</td>
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<tr>
<td>Wednesday</td>
<td>Counting Numbers 1-10</td>
<td>Staff identifies students’ arousal levels.</td>
</tr>
<tr>
<td>Occupation 2: Throw bean bags into buckets or boxes while standing on a BOSU balance trainer. Then count the number of bean bags that went into the buckets. This may be difficult for some students, so the students who are not able to stand on the BOSU balance trainer could sit upright on a therapy ball and toss the bean bags.</td>
<td>throw bean bags into Therapy balls</td>
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<tr>
<td><strong>Friday</strong></td>
<td><strong>Letter recognition ABC’s</strong></td>
<td></td>
</tr>
<tr>
<td>Staff identifies students’ arousal levels.</td>
<td>Scooterboard</td>
<td></td>
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<tr>
<td>Occupation 1: Have the student go down the scooterboard ramp while sitting upright on a scooterboard and holding a wooden letter puzzle piece. When he or she comes to a stop, he or she should match the wooden letter puzzle piece that he has with its correct spot on the puzzle board.</td>
<td>Scooterboard ramp</td>
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<tr>
<td>Occupation 2: Finger paint letters onto a large sheet of paper. Attempt to elicit responses from the students concerning the letter they are painting. Also, if a student has the goal of maintaining grasp, then have the student hold a paint brush for part of the painting experience.</td>
<td>Wooden letter puzzle</td>
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<td></td>
<td>Finger paint</td>
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<td></td>
<td>Paper (large sheets or a roll of paper)</td>
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<tr>
<td></td>
<td>Paint brushes</td>
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<td></td>
<td>Paint shirts or old T-shirts</td>
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</tbody>
</table>
The SCI classroom program uses various sensory based occupations to target overall sensory organization all-the-while targeting the curriculum and occupational therapy based goals. For example, some of the commonly seen occupational therapy goals for students in the SCI classroom include: student will persist at problem solving how to manipulate objects to fit into slots/containers, utilize a pincer grasp, participate in bilateral occupations, actively rotate objects to fit into containers, shift one’s gaze as objects are placed and moved around the student, stack 3-5 objects with prompts, interact with textural objects without demonstrating adverse reactions, and follow visual prompts. All of these goals are targeted by at least one occupation in the program. However, several other ideas and strategies could be utilized to elicit progress toward the OT and educational goals.

**Program Implementation**

As mentioned earlier, this program will be directly integrated into the daily routine at the MCISD Educational Center on Mondays, Wednesdays, and Fridays. Therefore, it could be run as a semester long program or it could be a school-year long program consisting of 16 weeks in the first semester and 22 weeks in the second semester. Diagrammed above is an example of how eight weeks of the program will be orchestrated. Each day, the occupational therapist and the therapy aide will split up and take 1-2 students each depending on the number of students in the class. If additional help is needed, the special education teacher or teacher aide will be summoned to help with the program. In the continuing weeks of the program, similar occupations will be employed to stimulate the various sensory systems of the children at The Educational Center. In the MoCI classroom, the students will attempt to identify their own arousal levels while the occupational therapist and the therapy aide will be responsible for identifying the arousal levels of those in the SCI classroom.
There are several other occupations that would be efficient at providing sensory input for the students. First, using a trampoline to provide vestibular and proprioceptive sensation is a pertinent occupational form for this program. In order to work on praxis, the OT could instruct the individual on the trampoline to practice a certain pattern while jumping. For example, jump on your feet three times, then on your knees once, and continue that pattern. In addition, one could throw a ball onto the trampoline and instruct the student to make the ball bounce. Furthermore, having the individual jump and play catch with a bean bag would be a good test of how they are processing the sensation of where they are in space while jumping and how they need to move in order to catch an object that is also moving. Another occupation could be having the students blow bubbles while another student tries to pop them. The student that is attempting to pop them needs to work on efficient movement patterns and understanding where their extremities are in space. A ball pit is a great occupational form for providing large amounts of sensory input in a fun and playful way to a child who may have tactile defensiveness. As Ayres states in the sixth principle of sensory integration, children have an innate drive to explore, interact with, and master their environments through sensorimotor occupations (Parham & Mailloux, 2010). With this in mind, the list of occupations available to use throughout this program is virtually endless. However, one can refer to Appendix F for more occupations that target other possible occupational therapy goals. Therefore, it is up to the OT to ensure that the occupations are continuing to be meaningful to the students and that they are targeting the various sensory needs of the students at The Educational Center.

The main occupational forms utilized throughout this program include the two special education classrooms each of which is attached to an extra room, the hallways, and the gyms. Within the classroom occupational form includes desks, chairs, a sink, swings, bean bag chairs,
therapy balls, a Smart Board, computer, educational utensils, and many other commonly seen items in classrooms. The gym is a large open space containing padded mats, two basketball hoops, balance beams, a ramp, a plastic slide, and other items. There is a closet attached to the gym that contains the physical education equipment. In addition, there is a fitness room consisting of a large, open, tiled space. There are also two swings, pads, and various sensory equipment items in the fitness room as well.

Lastly, information brochures discussing the sensory systems, sensory strategies for each system, and how therapy helps those systems will be available to give to professionals and to parents. There will be one brochure geared towards the educational staff and another that will target the parents. The brochure discussing the sensory ideas for each system is appropriate for both the educational staff and the parents. The sensory brochure for the educational staff was created as a part of the OT SLIDE Program while the brochure geared toward the parents was a modified version of the brochure created for the staff. Please refer to Appendix G for the brochures. In addition, resource guides containing helpful websites and books have been created. These resources provide information about sensory integration, foundations that support children with developmental disabilities, and treatments options for those with sensory difficulties. Please also refer to Appendix G for the resource guides available to the teachers and parents. Therefore, the brochures and the resource guides can be provide to parents if they display interest in learning more about sensory integration.

**Coordination of Care**

As mentioned earlier, in order for this program to run efficiently, there needs to be clear and open communication between the OT, special education teacher(s), and the classroom aide(s). Every Friday, the OT, special education teachers, class aides, and any other stakeholders
who care to attend, excluding parents, will attend a short weekly meeting on Friday mornings at 8:30 A.M. prior to the students’ arrival to school, to discuss any matters pertinent to the students’ engagement, successes, or problems. The coordination of care will consist of these professionals working together to provide meaningful, sensory-based occupations to the students in the program. In addition, the OT and the other therapists (PTs and SLPs) should maintain an open line of communication so that if something arises during the program, then the OT can inform the other therapists. At the Educational Center, there are instances where an OT and a PT or SLP will provide a co-treatment session. Therefore, the individuals are already familiar with each other and each other’s’ discipline. It is possible that during the program, a student may display a skill or ability that the PT or SLP was not aware of so being able to openly communicate about these instances will help promote more efficacious treatments for the students.

**Progress Monitoring**

The students will remain enrolled in The OT SLIDE Program throughout the school year. If in the following year, they are assigned to this same level classroom then they will participate in the OT SLIDE Program again. This will be the case until they are enrolled in a different, possibly higher-functioning classroom. The student may also be discharged from the program if they are taken out of the school by their parents or guardians. The students’ progress will be monitored through observations and through the Sensory Profile-School Companion, The Short Sensory Profile for Caregivers, and The Sensory Integration Inventory For Individuals With Developmental Disabilities-Revised. Due to the small number of students enrolled in these classes, it would be reasonable for the occupational therapists to keep weekly progress notes of progress and any significant occurrences that happen throughout the week. The OT and other
professionals should collaborate once a week to discuss any other topics that seem pertinent to the students and the academic experiences.

The assessments used throughout this program are not the tests developed directly for the sensory integration model of practice due to monetary constraints. However, the assessments utilized will provide an accurate depiction of the students’ sensory processing skills and outline problem areas and behaviors that can be treat using a sensory integrative approach. First, the Sensory Profile will be used by the clinicians can quickly identify if a child is experiencing sensory modulation difficulties at home (Dunn, 1999). The Short Sensory Profile will be used in order to decrease the amount of time the individual needs to dedicate to completing it. According to Dunn (1999) the primary caregiver completes this 38-item, judgment-based questionnaire that reports the frequency with which their child responds to various sensory experiences using a 5-point likert scale spanning from “always” to “never.” In addition, the Sensory Profile-School Companion will be completed by the student’s teacher in order to assess how sensory processing affects their behavior in the classroom and in other school environments (Dunn, 2006). The Short Sensory Profile will be sent to the caregivers during the first week of school with a prepaid envelope so that they can send it back. The special education teacher will complete the Sensory Profile-School Companion after one complete week of school. Therefore, by the start of the third week of school, the occupational therapist will have scored all of the Profiles and will have a better understanding of the student’s sensory processing needs both in school and at home. The OT will not inform every parent of how his or her child scored on the assessment, but the OT would be available to discuss these results if the parent displays interest. Due to the proximity and daily interactions with the teachers, the OT will be able to inform the teachers of the students’ results if the teachers display interest. These same assessments will be
used at the end of each school semester to see if the students improved their sensory processing abilities and whether or not they were more engaged in their occupationally embedded classwork.

The other assessment that will be used throughout The OT SLIDE Program is the Sensory Integration Inventory For Individuals With Developmental Disabilities-Revised (Reisman & Hanschu, 1992). It is designed to screen for clients who might benefit from a sensory integration treatment approach. The Inventory is divided into sections associated with sensory integrative processing: tactile, vestibular, proprioceptive, and general reactions. Furthermore, when the Inventory is complete, a profile of sensory strengths, needs, and associated self-injurious and self-stimulating behaviors is created helping to guide future treatments. This assessment is to be completed by the occupational therapist during the second week of the program and then again at the end of the school year. It would also be possible to modify this assessment so that once an area of abnormal sensory processing is identified, the number of times this abnormal sensory processing technique or behavior can be tracked. For instance, if an individual receives a “Yes” for the “Bites objects/others” question, then one could keep track of the number of times the student bit objects or others.

The *How Does Your Engine Run* Guide will be utilized to supplement the sensory integration model of practice throughout the OT SLIDE Program when it comes to having the students identify their personal arousal levels. The Alert Program aims to help students regulate their sensory levels in order to maintain an appropriate level of arousal (Williams & Shellenberger, 1996). Self-regulation is also heavily stressed throughout the theory of Sensory Integration. Enabling students to identify their own levels of arousal helps them to understand their sensory experiences and how they affect their body. Ayres (1972a) states that helping
children to independently identify their arousal levels will help them understand the needs of their nervous systems and will aid the therapist by showing them the direction in which they should take the therapy session. Moreover, Winnie Dunn stated that the overall outcome of sensory processing techniques should be sensory modulation and praxis (Dunn et al., 2002). In other words, the outcomes of these sensory based strategies should include the child’s ability to regulate the level of arousal in his or her nervous system and the ability to think up, plan, and carry out skilled motor patterns that affect one’s sensory systems. In summation, the assessments and other guides used throughout the OT SLIDE Program are logically related to the Sensory Integration Model of Practice and are thereby applicable to the implementation of this program.

**Budgeting and Staffing**

The OT SLIDE Program would run most efficiently with the hiring of a part-time occupational therapist that would work 15 hours per week. In addition, an occupational therapy aide should be hired to work 10 hours per week as well to assist the therapist throughout the program. The budget outlined in Appendix H gives a detailed summary of the costs required to implement The OT SLIDE Program successfully. The costs are divided into two categories, personnel and supplies/equipment. The estimated number of hours that an occupational therapist and a therapy aide would need to dedicate to this program each week is also provided. The occupational therapist’s wage is higher than the median hourly wage that is reported by the American Occupational Therapy Association’s 2010 *Occupational Therapy Compensation and Workforce Study* due to the lack of fringe benefits associated with this position. The wage provided to the therapy aide is the median wage for an occupational therapy aide according to the Bureau of Labor Statistics (2010). Please see Appendix I for a more involved job description of
the occupational therapist position and Appendix J for a more thorough description of the occupational therapy aide position. In addition, refer to Appendix K for a job advertisement flyer that could be posted about the occupational therapy position. As mentioned earlier, both positions will be part-time, so no fringe benefits will be provided.

There are a number of supplies and equipment items that will be needed to successfully implement this program. The costs and the quantity of these items are detailed in the appended budget. The majority of the costs were obtained from amazon.com, which uses a variety of vendors depending on the items one is searching. However, several other companies exist through which items could be purchased. The number of items requested varies in terms of how long they last. For example, the four scooterboards will most likely remain in usable condition for years while the Sensory Integration Inventories will last approximately one year. There are 20 scoring sheets in each pack and each student will need two of them during the first semester and one of them during the second semester. If there are 12 students in the program, then that accounts for 36 of the inventories. The most significant cost for this program is the cost for employing the occupational therapist and an aide. The occupational therapist must be a registered and licensed therapist in the state of Michigan. The therapy aide does not need a degree, but he or she does need to be at least 18 years of age and not have a criminal history. Aside from those costs, other significant costs include: the assessments, balance boards, a trampoline, an additional plastic slide, and other items.

The Educational Center is allowing the Program to utilize all equipment and materials available at the facility. Some of the most costly items that they are allowing the Program to utilize include: The building itself, an Apple computer, several swings, padded mats, a printer, printer ink, and other miscellaneous equipment items. The special education teachers have many
of the educational items that will be needed for the sensory-based learning occupations. In addition, the Educational Center is responsible for the monthly payments for the heating, cooling, water, electricity, internet, plumbing and many others. These in-kind costs are very helpful to the facilitation of The OT SLIDE Program.

Funding

The MCISD Educational Center is publicly funded through tax revenues. When it comes to taxes, each individual district receives an allocated amount of money for their public school institutions. The money is allocated to the different schools within that district based on variables such as the number of enrolled students and the needs of the school. Response to Intervention (RtI) strategies can be used and funded by the funds that the districts receive from the state. According to the National Association of State Directors of Special Education, Response to intervention is the practice of providing a high quality instruction/intervention matched to student needs and using learning rate over time and level of performance to make important educational decisions. The Individuals with Disabilities Education Act (IDEA) supports the option for a small amount of special education funds (up to 15%) being used for early intervening service and/or RtI strategies. Therefore, the main source of funding could be the money from taxes. However, in the current economic climate, most districts and schools are looking to cut programs, not add new ones. Therefore, educators and professionals must advocate for their district and for their students in order to receive the funds necessary to bolster their academic success.

If the funding from the taxes is not available, then The OT SLIDE Program will attempt to find a private fund to contribute to the program. The Institute of Education Sciences/Department of Education provides grants to education systems. The Institute’s purpose in awarding these grants is to provide national leadership in expanding fundamental knowledge and understanding of developmental and school readiness outcomes for infants and toddlers with or at risk for disability, and of education outcomes for all students from early childhood education through postsecondary and adult education. The central purpose of the Institute’s
research grant programs is to provide parents, educators, students, researchers, policymakers, and the general public with reliable and valid information about education practices that support learning and improve academic achievement and access to education opportunities for all students. According to their website, they have given grant for as little as 1,000 dollars, and for as much as 1,000,000 dollars. The only problem with submitting to this grant agency is that there will be thousands of applicants, so this may not be the most likely source.

Another option that exists in Monroe County is the La-Z-Boy Foundation. La-Z-Boy runs one of its offices and customer services centers in Monroe County and they donate a lot of money to the area. Last year, La-Z-Boy donated over 1 million dollars to various companies and foundations. My uncle, Patrick lott, is the Director of Fabric & Leather Quality at La-Z-Boy, so I believe that if I delivered a professional application for the OT SLIDE Program, he would be able to pull the appropriate strings to facilitate funding for this program. La-Z-Boy has donated hundreds of thousands of dollars to individual agencies before, so they have the ability to pay for the costs of the staff and additional supplies and equipment. Therefore, the combination of the long history of La-Z-Boy being in Monroe County and the fact that my uncle is high on the ladder and has worked with La-Z-Boy for over 20 years make La-Z-Boy a viable option for funding the OT SLIDE Program.

Furthermore, Autism Speaks is an organization that is dedicating to funding research into the causes, prevention, treatments and a cure for autism. They also provide ample support for those with autism and advocate for the needs of those with an ASD diagnosis. Autism Speaks runs a program called Family Services Community Grants through which they aim to build capacity and accumulate promising practices to aid those with autism. They accept applications for programs that address educational, recreational, young adult and adult concerns. The funds
dispersed to those whom they choose can use the funds to support new projects, the expansion of existing projects, or the successful replication of an existing curriculum or program. Therefore, since The OT SLIDE Program aims to improve students’ educational and sensory experiences, the OT SLIDE Program seems to be a prime candidate for this funding agency. Representatives from the Autism Speaks organization state that the requested amounts should be in the 5,000-25,000 dollar range. If received, this grant would significantly help the implementation of the OT SLIDE Program by helping to pay the salaries of the occupational therapist and the occupational therapy aide. Also, if the program is successful and can continue to demonstrate its efficacy, then they may qualify to receive the Autism Speaks Family Services Community Grant every year.

One other option available in Monroe County is the Herman and Irene Gertz Foundation. This independent foundation has given over 55,000 dollars since it begun in 2001. According to their tax forms, they donated 3,000 dollars to a children’s hospital and 3,000 dollars to the Monroe YMCA in the past two years. Therefore, I believe that their passion towards promoting health in the community and helping children in need would make them worthy candidates for donating to the OT SLIDE Program. If they provided the Program with 3,000 dollars, then that would cover the costs of the additional equipment and supplies.

According to the websites for the Institute of Education Sciences/Department of Education and the La-Z-Boy foundation, the recipient must have current tax-exempt status under Section 501©(3) of the Internal Revenue Service code. The Institute of Education Sciences/Department of Education state that you must apply at least one year in advance and the application process is online. However, the La-Z-Boy informational website did not state a deadline for submission nor the suggested method of submission.
Initially, the Sensory Processing Disorder Foundation was going to be considered as a possible funding source for the program. However, according to their website, they only fund research that adds to the evidence base concerning sensory processing disorder which they are helping to create. Therefore, they will not be contacted as a potential funding source. Similarly, the Autism Society only provides funding opportunities to those who are conducting research in the area of Autism. So, if The OT SLIDE Program were to apply for a grant from them then additional steps would need to be taken.

In order to become self-sufficient, part of the occupational therapist’s job will become advertising and advocating in regards to the importance of this program and its efficacy. By educating individuals in the community how important a program of this nature is to the students at the Educational Center, one can help influence how they vote if and when an issue concerning funding to the Educational Center appears on the ballot. In addition, continued research must be done to attempt to find additional funding resources. Lastly, if the OT decided to engage in research, then it is possible that additional funding options would become available such as the Autism Society or the Sensory Processing Disorder Foundation.

**Barriers to funding**

There are a couple barriers that exist in this process of funding the OT SLIDE Program. First, the therapist’s inexperience in handling the process for applying for a grant will pose a problem. Due to the fact that most individuals do not know how to apply for a grant, the likelihood that the therapist hired in knows how to apply for one is very low. This could cause errors in the writing process, errors in the calculations process, and even errors in regards to selecting the appropriate grants for which to apply. The grant writing process calls for an individual who can meet deadlines, write strong methodology for goals, objectives, and methods,
and who can alter their program’s needs to apply for several grants in the hope that they will receive at least one of the grants.

Another barrier is that the funds discussed above only provide funding for one year. It is possible that the Institute of Education Sciences/Department of Education agency could donate enough to last for years, but the likelihood of that is relatively low. Therefore, the Program must find a way to maintain the equipment so they are not replacing it often. The program will need to continue to employ an occupational therapist to modify programming, administer assessments, and develop materials for caregivers and educators along with several other tasks.

As with any public education institution, there is a limited amount of resources available to fund various programs. All too often there is news discussing how schools’ are cutting back on gym class or on recess. The limit on the amount of internal revenue that will be available for the OT SLIDE Program will also be another barrier to the successful implementation of this program. However, response to intervention strategies that are supported with data can continue to be funded from year to year as long as student progress is documented. Therefore, the tax dollars that the Monroe County public schools receive may be a sustainable source of funds as long as the program is efficacious.

Lastly, the theory of sensory integration is a highly debated theory in regards to efficacy. Many individuals feel that the theory is not applicable to treatment while others are passionate in their feelings of its efficacy. Also, many individuals, especially those at foundations not associated with medical services, may not understand what sensory integration is and how it is supposed to help the students. Therefore, opposition to the theory and a lack of understanding of the theory may impede successful attainment of monetary resources.
**Program Evaluation**

1. At the conclusion of the 16 week program, students will display an increased understanding of the educational curriculum.

   The academic progress of the students in both the SCI and MoCI classrooms will be monitored by the grading system designed by the special education teacher(s). The purpose of the OT SLIDE Program is to help the students be better prepared for learning occupations as well as to have better regulation of their sensory systems and behavior. Therefore, it is important that their academic progress be monitored as well. In addition, their progress through the classrooms at the MCISD Educational Center is an indicator of their academic progress. For example, if a student in a younger ages SCI classroom is deemed eligible by the educational staff working with that student, then he or she may be upgraded or promoted to a MoCI classroom. This occurrence is a good indicator that they are making academic and functional progress. The teachers keep track of this information on a yearly basis, so the OT will need to consult with the teachers to learn who is changing classrooms and thereby making academic and functional progress.

2. At the conclusion of the 16 week program, students will display a decrease in the frequency of certain negative behaviors as described by an individualized measure conducted by the occupational therapist.

   In order to evaluate the frequency of negative behaviors, the occupational therapist will utilize the Sensory Integration Inventory for Individuals with Developmental Disabilities-Revised (Reisman & Hanschu, 1992). The Inventory categorizes negative behaviors into the categories of tactile, vestibular, and proprioceptive depending on what sensory system is being stimulated. Furthermore, within each of these three categories, are subcategories that classify the specific behaviors into more specific areas. The occupational therapist can easily check “yes” or
“no” for each of the behaviors within the Inventory. Also, the OT will modify this tool in order to keep track of the number of times a certain behavior is witnessed within the session that the OT is observing the student. The OT will utilize the Inventory once at the beginning of the school year and then again within the last two weeks of the program. Therefore, the OT will have a before and after picture of the student and their negative behaviors. In other words, the OT will be utilizing a pretest/posttest, no comparison group design. If the OT modifies the instrument for a specific behavior, than he or she can compare whether or not the behavior has decreased in frequency.

3. At the conclusion of the 16 week program, students will increase their engagement in occupationally embedded classwork.

   Due to the nature of the typical curriculum for students at the Educational Center, students will not be measured in terms of grades but rather in terms of engagement. As stated in the introduction, engagement is defined as active involvement in a task. Therefore, using The Sensory Profile-School Companion, will allow the OT to evaluate the child’s sensory processing skills and see how these skills impact the child’s classroom behavior and performance (Dunn, 2006). This measure provides an important and thorough view of the child’s behaviors and interactions in the academic setting. The teachers will complete a Profile within the first three weeks of the program and then again at the end of the semester. Statistical analyses will be conducted in order to assess whether or not a statistically significant difference in scores were seen. In addition, the Sensory Integration Inventory for Individuals with Developmental Disabilities-Revised will be used for this objective. In theory, a decrease in the number of problem or disruptive behaviors will lead to increased time spent on schoolwork. Therefore, the Inventory will be helpful in identifying a decrease in problem behaviors. For both the Sensory
Profile-School Companion and the Inventory, the design will consist of a pretest/posttest no comparison group design. If the student is enrolled in the program for an entire year, then the teacher would complete a Profile at the end of the school year as well.

4. At the conclusion of the 16 week program, students will demonstrate better organization of sensory input at The Educational Center.

   Similar to the last objective, The Sensory Profile-School Companion will allow the OT to assess the regulation abilities of the students at the beginning of the school year, at the end of the first semester, and at the end of the school year (Dunn, 2006). By doing so, one can understand whether or not the students are benefitting from the implementation of the OT SLIDE Program. As with the earlier evaluations, the pretest/posttest, no comparison group design with the Sensory Profile-School Companion will be utilized with this objective. The OT will also compile a listing that categorizes the students by whether they did or did not improve in terms of sensory processing. This will provide the OT with an easy to convey number of individuals who benefited from the program.

5. At the conclusion of the 16 week program, students will demonstrate better organization of sensory input while in their home environment.

   This objective will be evaluated by having the caregivers complete The Short Sensory Profile once at the beginning of the program and again at the completion of the first semester (Dunn, 1999). Once again, if the students continue to attend the OT SLIDE Program, then they will also be assessed at the end of the school year. The Short Sensory Profile is standardized and abbreviated in order to provide a brief, yet thorough understanding of the child’s sensory processing. Due to the abbreviation of the Profile, it should take caregivers approximately ten minutes to complete. In addition, a statistical analysis will be run to determine if there is a
statistically significant difference between how their sensory processing was when they started the program and how they are now.

6. At the conclusion of the 16 week program, students will display less maladaptive behaviors while at The Educational Center.

   Maladaptive behaviors are disruptive to the classroom experience for the individuals at the Educational Center. Therefore, by decreasing the number of maladaptive behaviors such as “stimming,” the students will be more focused on the occupationally embedded classwork. The Sensory Integration Inventory for Individuals with Developmental Disabilities-Revised is a tool that will be helpful in identifying the areas in which the students are having problems and then one can see if there are significant differences from the beginning of the program to the end (Reisman & Hanschu, 1992). It would also be possible to modify this assessment so that once an area of abnormal sensory processing is identified, the number of times this abnormal sensory processing technique or behavior can be tracked. In addition, the Sensory Profile-School Companion will be used to assess the children’s sensory processing in a school or classroom setting. When identifying the maladaptive behaviors, the special education teachers and education aides should be consulted due to the amount of time they (Dunn, 2006) spend with the students. The stakeholders, especially those employed by the Monroe County Intermediate School District, will be looking for noticeable results such as decreases in maladaptive behaviors and improvements on The Sensory Profile-School Companion (Dunn, 2006). Improvements on the measures would show them that the program is efficacious and would elicit further support.

7. At the conclusion of the 16 week program, students will display better regulation of sensory input and less maladaptive behaviors while at home.
The Occupational Therapists will use The Short Sensory Profile to identify changes in sensory organization and maladaptive behaviors at home (Dunn, 1999). Statistical analyses will be calculated in order to see if there was a statistically significant change in the students’ sensory processing abilities at home. This abbreviated version of The Sensory Profile is designed so that the OTs can quickly identify children’s sensory processing difficulties at home. The questionnaire uses a five-point Likert scale so one could analyze the differences between the pretest and posttest. Furthermore, one could analyze the difference in the scores from the baseline score, midterm evaluation, and again at the end of the school year. The midterm evaluation would act as a formative evaluation and the evaluation at the end of the year would be the summative evaluation. If there are not any changes seen at the formative evaluation, then the OT could make adjustments to the programming so that noticeable changes would be displayed.  

8. At the conclusion of the 16 week program, students will be capable of determining their arousal levels on a continuum of low arousal to high arousal.

The Alert Program, which utilizes the *How Does Your Engine Run* scale of alertness, will be used to assess whether students are capable of determining their own arousal levels (Williams & Shellenberger, 1992). The scale consists of a continuum of arousal levels that span from running “too slow” to “too fast.” At the beginning of each session, the students will be responsible for attempting to determine their own arousal levels along this continuum. The OT and the teachers will be responsible for helping the students throughout the beginning of the program, but their guidance will be decreased as time goes on. If the student is not capable of identifying their arousal level for any reason, the OT will infer the student’s arousal level for them. Although this does not meet the objective, it will act as a guide for the therapist so that they can see if the student’s arousal levels are changing based on the perceptions of the OT. It is
important for these students to understand how they can use movements to affect their sensory integration and ability to function on the schoolwork.

**Process Evaluations**

The coordination of care between the occupational therapist and the special education teachers will also play an important part in meeting this objective. Daily interactions between the two disciplines can allow for the exchange of valuable, qualitative information that may help the OT plan for future occupations with certain students. There will be formative evaluations that assess the special education teachers’ and the caregivers’ perceptions of the OT SLIDE Program. These evaluations will have a section that allows the individuals to ask questions and provide other input or suggestions. If modifications are necessary, then the occupational therapist can make the needed adjustments in between academic semesters.

**Perceptions of Key Stakeholders**

Throughout the program, it is important to assess whether those who are involved with the program are satisfied with the way the program is functioning. These individuals are vital to the effectiveness of The OT SLIDE Program so ensuring that they are physically and mentally involved with the program will be important. In order to facilitate their continued involvement and interest, the OT will coordinate with these stakeholders weekly to answer any questions or address any concerns. In addition, the teachers and aides will fill out an informal Teacher Formative Evaluation of The OT SLIDE Program form after eight weeks of programming. Then, after 16 weeks, they will complete a more formalized OT SLIDE Program Teacher Evaluation form that addresses their agreement with the programs and the OT’s effectiveness (see Appendix L for the Special Education Teacher Evaluation of the OT Slide Program).

Ensuring that these individuals have an active voice in the program is of the utmost importance
due to the fact that the program is occurring in their classroom and with their students. Teachers want their students to enjoy school and to be successful in their environment. Due to their consistent interaction with the students in the school environment, they may have a more thorough understanding of the student and could make a judgment as to whether or not they are benefiting from the program.

Lastly, parent involvement and understanding of the logic behind The OT SLIDE Program is important for maintaining a well-rounded approach at addressing students’ sensory needs. It will also be important to ensure that parents are not unhappy with the program for any reason. Parent involvement at home will facilitate the success of the Program, so continued communication will be maintained throughout the duration of the program. The parent(s) or caregiver(s) will complete the caregiver evaluation form in order to assess the effectiveness of the home sensory strategies provided by the OT (see Appendix M for the Caregiver Evaluation of the OT SLIDE Program). Also, it addresses whether or not the information and resources being provided to the parents is readable, understandable, and professional. This form will be completed at the end of the first semester to see how they feel the program is impacting their children. Then, the same form will be completed at the end of the school year to see if advancements have been made from the midterm evaluation. Therefore, the teacher and caregiver evaluations will inform the OT of the program’s efficacy and the stakeholders’ feelings.

**Letters of Support**

There are several key individuals who could be approached in regards to providing a letter of support for The OT SLIDE Program. The first person is Elizabeth Taylor, the Assistant Superintendent in the Human Resources and Legal Counsel Department. Ms. Taylor will be
formally approving the production of this sensory program and has shown gracious support for this program. She has been actively involved in the development and production of this program by communicating directly with Lisa Cielinski, OTR/L and Shawn Woelmer-Mero, OTR/L. She has provided wonderful guidance throughout this procedure and her insight into the world of children with developmental disabilities is exceptional. Together, with the support of these important individuals, a timeline for the implementation of The OT SLIDE Program was developed (refer to Appendix N for timeline). In addition, Ms. Taylor has a thorough understanding of the operations at the Educational Center even though she has a position higher up in the organization. Due to her strong influence and overwhelming support, the program has been properly developed and can be implemented in the near future (see Appendix O for letter or support from Ms. Taylor).

The next key individual is Lisa Cielinski, OTR/L. Lisa has been very helpful by maintaining continued communication throughout the development process. She has allowed me to interview and shadow her at the Educational Center in order to gain a better understanding of how things operate on a day-to-day basis. In addition, she has provided me with excellent resources that have contributed to the creation of The OT SLIDE Program. Her twenty-four years of experience in working at The Educational Center makes her an excellent resource and an influential person to have helping with this program. Lastly, she has connected me with others at The Educational Center so that I can have an even better understanding of the different things that go on at the facility. She can be contacted via email at lisa.cielinski@monroesd.edu.

Another individual who has been helpful throughout this process is Maureen Kane-Wineland, Ph.D., OTR/L. Mrs. Kane-Wineland is an executive owner of Rehab Dynamics and is very knowledgeable in regards to pediatric therapy and sensory integration topics. She has
completed her Sensory Integration and Praxis Tests (SIPT) certification and continues to be a leader in the field of sensory integration in the Northwest Ohio area. Her letter of support would show essential support in an area that she is very passionate about because of her personal knowledge and renowned reputation in the field of occupational therapy. She can be contacted via email at rehabforkids@rehabdynamics.com.
References


*American Journal of Occupational Therapy, 64*, 430–442.


Appendix A

Organizational Chart
Appendix B

Interview with an Occupational Therapist at MCISD Educational Center
Introduction to Interview:

- Introduce myself and my background
- State confidentiality of information
- Ask for permission to tape-record the interview
- Explain and/or discuss definition of occupational therapy (OT)
- Applications of OTs using sensory strategies

Purpose of the interview:
To discuss and confer on sensory-related issues that teachers and therapists face on a daily basis when interacting with the individuals at the Monroe County Intermediate School District (MCISD) Educational Center.

Interview Questions:

1. What is the purpose of the Educational Center?

2. What are the main diagnoses seen in the population at the Ed Center?
   a. Other characteristics of individuals at the Ed Center (e.g. age, gender, levels of functioning, therapy outside of the Ed Center, etc.)?
   b. Approximate number of students?

3. What is the organization of the Educational Center? Is there an organizational chart?
   a. Approximate number of teachers/therapists/other employees?

4. How are therapy (OT, PT, Speech) services delivered to population (one-on-one? group? co-treatment?)
   a. Important assessments? Evaluations?

5. How is the institution funded? Furthermore, how are therapy services funded, more specifically OT?

6. What is a typical day like for a student at the Educational Center?

7. Are there any extracurricular programs or organizations directly linked to the facility?

8. What are the concerns of other employees at the Ed Center? (Teachers, aides, supervisors etc.)
   a. How have these issues been addressed in the past?
9. Do you think that the implementation of a sensory-based program could be beneficial for the students and employees at the Educational Center?
   a. Is it feasible?

10. Do you think that there are unmet needs here at the Educational Center?
    a. Could this program help meet those needs?

11. How much meaningful occupation does a program of this nature afford? (In other words, is there the capability of incorporating individual preferences?)

12. Are there appropriate facilities and other resources available for the implementation of this program?

13. Do you think other professional would be interested in the implementation of a sensory based program for the individuals here at the Educational Center?

14. Do you think parents would be interested in learning about the program via lecture(s), handouts, and/or email communication?

15. Are there any other resources that you think would be beneficial to review in regards to various diagnoses? Sensory Integration? Any other topic(s)?
Appendix C

Interview with Special Education Teachers at MCISD Educational Center
Interview with Special Education teachers

Introduction to Interview:

- Introduce myself and my background
- State confidentiality of information
- Ask for permission to tape-record the interview
- Explain and/or discuss definition of occupational therapy (OT)
- Applications of OTs using sensory strategies

Purpose of the interview:
To discuss and confer on sensory-related issues that teachers and therapists face on a daily basis when interacting with the individuals at the Monroe County Intermediate School District (MCISD) Educational Center.

1. How many students are in your classroom?

2. How many Monroe County Intermediate School District employees are designated to your room including yourself (i.e. other teachers, aides, or volunteers)?

3. What are the various diagnoses seen in your classroom?

4. Do your students exhibit disruptive and/or maladaptive behaviors on a regular basis?
   a. If you answered “yes” to question 3, please list and briefly describe the behaviors seen.
   b. How often is your class disrupted by these behaviors during a regular day?
   c. When do the disruptions happen most often (e.g. when the students transition off of the bus in the morning, after lunch, during quiet work time, etc.)?

5. What strategies do you use to alleviate students’ negative behaviors?

6. In your opinion, are there any accommodations or strategies that could be implemented to help your classroom function efficiently on a daily basis? Please list and explain.
7. Have you ever heard of Sensory Integration or Sensory Processing?
   
   a. Do you feel that you have a thorough understanding of these terms or do you feel that you could benefit from more information concerning Sensory Integration and/or Sensory Processing?
   
   b. Also, do you think that utilizing “sensory strategies” regularly in your classroom would benefit the children and their ability to attend to work?

8. In your opinion, would an occupational therapist run program, utilizing sensory strategies improve the everyday functioning of your classroom?
Appendix D

Focus Group Instrument
Focus Group Instrument

The occupational therapist will start the focus group with an introduction of oneself, background, and a statement saying how thankful they are for the parents’ gracious participation. After the personal introduction, the therapist will discuss the following topics:

- Describe the purpose of the focus group.

- Permission from the focus group members to record the comments for accurate depiction of answers.

- Explain occupational therapy, the role of the occupational therapist in the Educational Center, and the role during this focus group.
  - Utilize CFTO definition of occupational therapy.
  - Relate it to occupations completed during the school day.
  - Briefly explain how occupational therapists work in a variety of settings in order to aid individuals with meaningful occupations through active engagement.
  - Answer questions concerning definition.

- Explain Sensory integration and why it is important for their children.
  - Basic description of the definition, the history, the strategies, and the research conducted and currently being conducted.

- Explain the significance of an occupational therapist utilizing sensory integration (SI).
  - How occupational therapists use sensory integration within treatments to improve engagement and performance.
  - Examples of common behaviors and strategies to target those behaviors.

- State the guidelines for the discussion.
  - Ensure that all participants feel comfortable and confident to share their knowledge and experiences.
  - Emphasize that the group is a safe and welcoming environment within which everyone is entitled to equal opportunity to share in the discussion.
  - Encourage all participants to engage in the discussion and to interact respectfully with one another.
Remind the participants that they are able to bring up new topics even if the occupational therapist has not yet addressed that topic.

Remind the participants that the occupational therapist would be happy to address other additional questions either after the focus group or through email.

After the occupational therapist has reviewed the above topics, the occupational therapist will briefly restate the guidelines and ask if anyone has any questions about the guidelines. Then the occupational therapist will begin the focus group by stating:

- Would everyone please share with the group your child’s age, disability, any problem behaviors that you feel comfortable sharing and anything else that you feel is important for the group to know.

After everyone has introduced their child, the occupational therapist will ask:

- Has your child ever received or are they currently receiving any type of treatment or therapy outside of school? If so, what type? (OT, PT, SLP, Early intervention services, sensory-based treatments, anything else…)
  - Have any of these treatments been sensory based or has a therapist talked to you about using sensory integration therapy?

- Does your child engage in any extracurricular organizations or occupations?

- According to the staff at the Educational Center, is your child participating throughout the school day?

- According to the staff at the Educational Center, is your child engaging in any problem behaviors or repetitive behaviors? If so, which behaviors and how often?

- Are any of these behaviors also being seen at home? If so, which behaviors and how often?

- Are there any triggers that will tend to cause these behaviors?

- What are some of your child’s favorite things? (e.g. favorite toys, favorite shows, favorite sounds, etc.)

- What are some of your child’s greatest strengths and weaknesses?

- What occupations do you think are the most important for your child to be able to complete?

- Is your child having trouble engaging in these occupations?
• In your opinion, what is lacking from your child’s school day?
  o Could a sensory-processing program help to fill that void?

• Now that you have an understanding of sensory integration and how it relates to the expression of behavior, would you be interested in the implementation of a sensory processing program in your child’s daily routine at the Educational Center?

If the group is struggling with discussing these topics then they could discuss other issues such as:

• Issues of their children while they are on the bus
• Future plans for their children
• Community involvement opportunities
• Social events for their children
• Other ways to target the problem areas

End the focus group by asking the participants if they have any additional comments or suggestions. Then, thank them all for attending and participating.
Appendix E

Program Flyer
OT SLIDE Program
Occupational Therapy: Sensory Learning in Developmental Education

Want a fun and easy to positively affect your students’ behavior and learning?

The OT Slide program aims to help students with developmental disabilities organize their sensory input, alleviate distracting behaviors, and increase their engagement in schoolwork. Through a series of sensory-based occupations, the students will gain a better understanding of their sensory systems and how their movements and actions affect their level of alertness.

The OT SLIDE Program consists of:

- Full semester of programming
- Fun and meaningful occupations
- Easily integrated routine for educators
- Meaningful occupations reinforcing the academic curriculum
- Educational materials for educators, caregivers and others
- Tools to monitor success of students
- Hands on facilitation from an occupational therapist

For more information on how the OT SLIDE Program could help in your classroom, contact Michael Iott, Program Coordinator at 734-457-0788.
Appendix F

Other Ideas for Targeting Various OT goals
Bilateral integration:

1. Playing catch (i.e. baseball, football, bean bags, Velcro catch)
2. Shooting a basketball
3. “Pop beads” which snap together, but require bilateral coordination and force
4. Rowing a boat/kayak (can be completed by having a child sit in a laundry basket and giving them a paddle if a boat/kayak is not available)
5. Balloon volleyball/regular volleyball
6. Swinging from a trapeze bar or from monkey bars on the playground
7. Cutting with scissors (holding the paper steady with one hand while cutting with the other)
8. Coloring a picture (one arm has to stabilize the paper while the other colors the page)
9. Playing an instrument (i.e., the piano involves using both upper extremities in a coordinated fashion)
10. Stringing beads by matching the size of the beads to the appropriate string size
11. Wheelbarrow walking/crab-walking/bear-walking
12. Using hand-over-hand pulling to help climb a ramp
13. Using drumsticks or noisy hammers to make a beat
14. Carrying boxes of toys when it is time to clean up. Carrying items of various weights.
15. Jumping rope
16. Using an Ultra Zoom Ball (each player grips 2 handles on his/her side and pulls his/her arms apart to make the zoom ball go from one end to the next)
17. Swinging a baseball bat, playing tee ball, or swinging a golf club
18. Flattening dough using a rolling pin
19. Using a mixing bowl during a cooking occupation (i.e. whisking, beating, stirring etc.)
20. Swimming (different strokes require movements of different patterns)
21. Winding wind-up toys
22. Riding a bicycle (involves bilateral integration of the legs)
23. Climbing ladders (i.e., regular, rope, playground)
24. Drawing on a whiteboard or Smartboard that is mounted to the wall
25. Using tools and twisting nuts and bolts together

Pincer Grasp (picking up small items using pads of thumb and index finger):

1. Sticking marshmallows on toothpicks
2. Picking up pennies or bingo chips off of table
3. Using tongs or tweezers to pick up small objects for sorting beads to improve pinch strength and control; Modify the size of the object, either smaller to make it harder, or larger to make easier
4. Place coins in a narrow slot, such as a piggy bank, for pinch strengthening and control
5. Use eyedroppers to make colorful dribble art creations by placing drops of colored water on a paper towel for pinch strengthening and control
6. Buttoning and snapping clothing materials to encourage pinch strength and control
7. Stringing beads to encourage using the pads of the thumb and index finger
8. Peeling stickers off using the fingertip of the thumb and index finger; Modify the size of the sticker by using larger or smaller ones
9. Tear small pieces of paper with fingertips of the thumb and index finger and paste them onto a sheet of paper to make a picture
10. Using the pads of the thumb and index finger to open a clothespin rather than pinching it open against the side of the index finger; place the clothespins along the top of a container and then on top of each other to construct a design.

11. Pick up small objects with the clothespin, such as cotton balls, beads, pegs, crumbled paper.

12. Hanging up pictures with thumbtacks by using the pads of the thumb and index finger to push the points of the thumbtack into a tack board.

13. Breaking off small pieces of play-doh, then rolling the play-doh between the pads of the thumb and index finger to make small balls; Modify the resistance by using clay, therapy putty, silly putty, bread dough, cookie dough, etc.

14. Using the pads of the thumb and index finger to play with spinning tops.

15. Playing Jenga encourages using the fingertips of the thumb and index finger to remove a block from a tower.

16. Playing the game Lite Brite; picking up small colored pegs with the pads of the thumb and index finger and placing them into a grid of holes to create glowing designs.

17. Incorporating tong games such as, Operation, to improve pinch strength and control and the use of the fingertips of the thumb and index finger.

18. Practicing winding up toys by using the pads of the thumb and index finger for pinch strengthening and control.

19. Placing cheerios in an ice cube tray and encourage to take the cheerios out.

20. Zipping up zippers.

21. Playing a game of darts, with foam darts for safety.

22. Playing the triangular peg board puzzle or checkers while encouraging pincer grasp.

23. Playing with wooden knob puzzles that feature pincer grasp knobs by encouraging the use of the pads of the thumb and index finger.

24. Using nuts and bolts.

**Tactile Tolerance**

1. Finger paint using instant pudding. It is a heavier texture then normal paint and you can eat it while painting! You can decorate the pudding with twizzlers, cheerios, mini M&M’s, and coconut.

2. Use your feet to paint a picture. Step in paint or just use one of your toes to make a design on the paper.

3. Using tempera paints, paint designs on your body. Rub cold cream onto your skin and then paint away.

4. Design food or wind chimes out of clay. Sculpture clay into what you want using a rolling pin, cooking cutters, and your fingers.

5. Make hand faces by gluing fabric scraps, yarn, ribbon, or feathers onto your hand. Also use markers or paint to help design the hand faces. Could have a puppet show to get the kids more involved.

6. Mix in bowl 2 cups of flour, 2 cups of salt, ½ cup warm water, 1 tablespoon powdered alum, teaspoon of cooking oil, and food coloring. Have the child mix it with you and then have them mold shapes together out of the mixture using different utensils (may need to add more water if too dry).

7. This is for children that are a little more tolerant of different textures. There will be 4 jars that have pictures of different animals and the mouth being the opening of the jar. When
the child reaches in the mouth he will get a different small toy out of each jar (to encourage the child to reach his hand inside) that is buried in rice (jar 1), sand (jar 2), salt (jar 3), and beans (jar 4).

8. Spread glue over paper and with your hand sprinkle the mixture of salt and dry tempera paint over the glue to make salt pictures.


10. Using grass, tree branches, leaves, flowers and other outside items glue these onto a flower pot to make it look like the outside.

11. Using the safe (*not hot) wax, have the child put their hands and other toys in the wax container. They can pick it off their fingers and toys. The children could also wax only part of their toy to see what it looks and feels like.

12. Have 4 different carpet scrap cutouts such as ones that are shaggy, have patterns, are short, and are stiff. The child will step on each and tell you how they are different. We can then put them inside a tunnel for when the child crawls through.

13. This is for children that are a little more tolerant of different textures. There will be 4 jars that have pictures of different animals and the mouth being the opening of the jar. When the child reaches in the mouth he will get a different small toy out of each jar (to encourage the child to reach his hand inside) that is buried in rice (jar 1), sand (jar 2), salt (jar 3), and beans (jar 4).

14. Spread glue over paper and with your hand sprinkle the mixture of salt and dry tempera paint over the glue to make salt pictures.

15. Paint on a table using flour paint. Mix together flour, water, and food coloring. Spread it to make new designs.

16. Using grass, tree branches, leaves, flowers and other outside items glue these onto a flower pot to make it look like the outside.

17. Kid-friendly Bingo using different textures as the chips and call numbers. The chips and call numbers will be raised, have bumps, soft, hard, etc. The child can either play or call the game.

18. Various carpet patterns and scraps

**Increased strength of the shoulder complex:**

1. Wheel barrel walk—child on hands with therapist holding child at ankles to promote weight bearing through the arms and shoulders

2. Painting on the wall/easel—place paper at shoulder height so child has to place arm at 90 degrees to on endurance of shoulder complex

3. Chair push-ups—put hands on either side of chair and push up until bottom comes up off chair to promote shoulder strength and weight bearing through the arms

4. Ball walk up the wall—face the wall and use both hands to “walk” the ball up the wall. Walk ball up the wall until ball is just above shoulder height, complete ball walk slowly to gain shoulder control

5. Jungle Jim—ladders, crawl through tunnels to promote weight bearing through the arms and shoulders

6. Monkey bars—promote strengthening of the shoulders by transferring self from one bar to another, limit swinging motion if possible to isolate the shoulder musculature
1. Rock climbing—promote strengthening of the shoulders by pulling self up the rock climbing wall especially when feet and legs are not directly under the body.
2. Using a rolling pin to hit a ball that is hanging from the ceiling—promote reaching with the shoulder complex which requires stability.
3. Balloon volleyball—occupation will promote continual overhead motion for strength and endurance to the shoulder complex.
4. Wall push-ups
5. Crab walk—Supine with arms placed behind child. Promote weight bearing through the arms. Child will have to demonstrate strength and endurance of the shoulder complex to complete crab walk. Can create a crab walk soccer game.
6. Bear crawl—bend at the hips so all fours are on the ground. Promotes weight bearing through the arm. Child will have to have strength and endurance to maintain position.
7. Rope climbing—either on incline or knotted vertical rope depending needed difficulty to promote shoulder strengthening.
8. Seal walk—lie prone, place hands on ground, walk by using arms and dragging legs. Promote shoulder complex strength while playing a game.
9. Tether ball—child will have to put shoulder in a variety of different positions to hit ball.
10. Aquatic Games—races holding weighted object in front and racing opponent. Handstands to promote strength.
11. Hang gliding—use strength to hold self on the handle.
12. Rebounder—chest passes, side chops, overhead, internal rotation; use these motions in an obstacle course.
13. Use dynodiscs, BOSU on rounded edge, and foam in a circle and play musical chairs in push-up position. Children will use their arms to get from one unstable surface to another to increase shoulder strength and endurance.
14. Twister—putting the child in a variety of different positions while playing Twister will promote shoulder strength in different positions.
15. Playing with parachute.
17. Moving ring swing—promote strengthening of the shoulders by transferring self from one bar to another.
18. Tug’o’war.

**Reaching**

1. Washing walls or mirrors that are taller than the child.
2. Slap jack or a similar card game will encourage controlled and quick reach.
3. Hanging a rattle or desired toy over a child’s crib will encourage reach.
4. Swinging a child on their tummy and allowing them to reach out to grab objects that will build a tower.
5. Making cookies or using play dough, using a rolling pin to flatten the dough out.
6. Balloon volley ball with a small child (see how long they can keep the ball in the air above their head).
7. Throwing a baseball or football at a target.
8. Playing peek-a-boo with a child and not removing the blanket or towel until they reach up for it.
9. Building a tower with blocks, as tall as the child can go, incorporating reach.
10. Writing on the Smartboard in class requires controlled arm movements and reach.
11. Whip cream painting on a slanted desk to promote good posture and reach.
12. Providing handling support to the hips, blow bubbles for the child to reach
13. Rolling the child on a therapy ball back and forth to grab stuffed animals will help elongate the trunk muscles.
14. Paddling in a canoe will encourage the arms to dissociate from each other in preparation for extended reach.
15. Bilaterally propelling themselves on scooterboard
16. In prone position, army crawling under an obstacle course rope.
17. Sitting on a stool to complete a painting occupation allows the child’s hips to tip foreword and opens the hip angle to increase postural control, which leads to increased reach skill.
18. Lying prone on a wedge while participating in a boardgame will require increased range of shoulder flexion to produce a good reach.
19. Wheel barrel walking requires co-contraction of the arm and shoulder muscles with will lead to increased reach.
20. Introducing a permanent chair for a child who need upright postural support, and lateral trunk support will leave the child’s upper extremities free for reach occupations.

**Hand-eye coordination:**
1. Ball rolling: Have child sit down with his/her legs spread apart. Have a partner or OT roll a ball between their legs and tell them that if the ball touches their tummy it is a goal. The idea is to stop the ball before it hits the tummy and then try and score a point on the other person.
2. Completing connect-the-dot worksheets, mazes, and tracing occupations
3. Chopstick pick-up: Use chopsticks to pick up different items such as marbles, buttons, hair ribbons, pretzels, or pound puppies. Transfer the objects to a jar or box.
4. Pick up stix
5. Stacking blocks
6. Puzzles
7. Sorting snacks: fill a bowl with different types of cereal. Have the children sort the different kinds into piles. Can begin to time it for speed as they progress.
8. Attach a ball to a string and push the ball away and catch the ball on the way back
9. Catching a balloon
10. Catching a beach ball
11. Attach a ball to a string and hit with a tennis racket
12. Throwing a ball
13. Throw a ball against a wall then catch it
14. Hit a punching bag
15. Corn-hole
16. Beanbag tic-tac-toe
17. Hit a ball with a bat from a pitch or off of a batting tee
18. Dodge Ball Tag
19. Hula-hoop tag
20. Shooting baskets with small ball toward a hoop attached to a door or wall
21. Catching fish: using a makeshift fishing pole with a magnet on the end and catching fish that have metal on them, so that they stick to the magnet
22. Golf
23. Catching a Frisbee
24. Bowling
25. Touching various body parts with the index finger (i.e. touch your nose, touch your ears, touch your chin, etc.)

Improving In-Hand Manipulations Skills:
1. Place two pennies and two paper clips in palm of hand. Try to move one penny to fingertips and place on table without using other hand, then one paper clip, and so on. Try it with more items as it gets easy.
2. Bead stringing, especially when the lacing tip is shorter than the bead
3. Pegs and pegboards, especially when several pegs are held in the hand while placing each one
4. Place pennies or buttons into slots (cut one into the plastic lid of coffee can and draw a face so you are "feeding" the can)
5. Lacing boards, sewing cards, beginner sewing kits (with yarn and felt, for example)
6. Play finger tug'o'war with coffee stirs, plastic lace (gimp), or a marble
7. Modeling clay or play dough, especially when making small objects
8. Pencil walk and flip: hold a pencil as if you are going to write with it. Keeping the tripod position, walk your fingers up towards the eraser. When you get there, flip the pencil over without using other hand or a surface to brace it. Walk fingers back to the other end, still keeping the tripod position, and repeat.
9. Flip a pencil or coin over and over in fingertips
10. Hold a small plastic cup filled with water (the lid from liquid laundry detergent works well for this) upright in the tips of fingers. Turn the lid without spilling by turning it in fingertips.
11. Several finger puppets on one hand or multi-finger puppet
12. My product: The Fasten-ator
Appendix G

Brochures, Online Resources, and Books Concerning Information About the Sensory Systems and Occupations for the Various Sensory Systems
Various Sensory Systems

Information About the Other Senses

Reference:

Further reading:

References:

OT SLIDE PROGRAM

WMCD

Educational Center

Monroe County Intermediate School District

By: Michael Lee

Various Sensory Systems

Information About the Other Senses

Reference:

Further reading:

References:

OT SLIDE PROGRAM

WMCD

Educational Center

Monroe County Intermediate School District

By: Michael Lee

Various Sensory Systems

Information About the Other Senses

Reference:

Further reading:

References:
Introduction to Sensory Integration

Do to help?

What can occupational therapy to help?

Possible Signs of Sensory Integration

Neurological, emotional, physical requirements are not met.

Visual, auditory, tactile, proprioceptive, and vestibular systems are not working together.

Tactile defensiveness: over-responsiveness to texture, pressure, or movement

Proprioception: under-responsiveness or over-responsiveness to movement

Visual defensiveness: avoiding eye contact, turns their head, or covers their eyes when they should be engaged

Auditory defensiveness: sensitive to noise, avoid noisy environments

Tactile defensiveness: over-responsiveness to touch, pressure, or movement

Proprioceptive defensiveness: under-responsiveness or over-responsiveness to movement

Visual defensiveness: avoid eye contact, turns their head, or covers their eyes when they should be engaged

Auditory defensiveness: sensitive to noise, avoid noisy environments
The Sensory System

The senses are school and part of most important occupations of the brain, and the ability to interact and process sensory information from the body's position provides a sense of body position. The system provides a sense of body position and the ability to know the location and orientation of objects. The system provides a sense of body position.

The senses are school and part of most important occupations of the brain, and the ability to interact and process sensory information from the body's position provides a sense of body position. The system provides a sense of body position and the ability to know the location and orientation of objects. The system provides a sense of body position.
Engaging Students Through Sensory Strategies

By Michael J. Otto

Physical Education Coordinator
Monroe County Intermediate School District

Strategies

- Play
- Movement
- Music
- Play-doh
- Taste
- Touch

Room with minimal visual distractions
Room with multiple points of interest
Room with multiple points of sensory input
Room with multiple points of physical activity
Room with multiple points of tactile input

Other Sensory Strategies

- Colorful objects
- Food items
- Textures
- Scents
- Sounds

OT SLIDE PROGRAM
**Proprioceptive Input**

- Movement
- Walking
- Running
- Pushing, pulling

**Vestibular Input**

- Riding a bike or on a merry-go-round
- Bouncing
- Spinning
- Rocking

**Sensory Strategies**

- Touch, pressure, or other
- Wearing/matching of items
- Wearing spectacles or special glasses
- Sensory toys and games
- Sensory software or apps
- Sensory equipment
- Sensory input activities

**Additional Input**

- Brushing
- Poking, pinching
- Stretching
- Patting
- Gentle hugging
- Threading
- Fiddling with small objects

**Posture and Movement**

- Sitting
- Standing
- Lying
- Walking
- Running

**Motor Skills**

- Fine motor skills
- Gross motor skills
- Body awareness
- Spatial awareness

**Proprioception**

- Awareness of body position in space
- Body awareness
- Spatial awareness

**Vestibular System**

- Sense of balance
- Sense of movement
- Sense of body position in space

**Sensory Integration**

- Sensory processing
- Sensory modulation
- Sensory discrimination
- Sensory organization

**Brain Development**

- Improved attention
- Improved learning
- Improved handwriting
- Improved social skills
Online Resources for Parents

Organizations:

Autism Society
http://www.autism-society.org/

Autism Speaks
http://www.autismspeaks.org/

Pathways
http://www.pathways.org/

Sensory Integration Global Network
http://www.siglobalnetwork.org/

Sensory Processing Disorder Foundation
http://www.spdfoundation.net/

The Spiral Foundation
www.thespiralfoundation.org

Helpful resources from professionals:

Autism Speaks Internet Resources
http://www.autismspeaks.org/family-services/resource-library/websites-families

The Alert Program® “How does your engine run?” by Mary Sue Williams, OT and Sherry Shellenberger, OT
www.alertprogram.com

Children’s Disabilities Information
http://www.childrensdisabilities.info

Autism Spot
http://www.autismspot.com

Developmental Delay Resources
http://www.devdelay.org/

Dr. Cheng’s resources about SPD, anxiety, and other issues affecting child development.
http://www.drcheng.ca/page1/page1.html

Henry Occupational Therapy Services, Inc. Resources
http://www.ateachabout.com/
Sensory Smarts by Lindsey Biel OTR/L and Nancy Peske
http://www.sensorysmarts.com/

Sensory Processing for Parents and Professionals
http://www.sensoryprocessing.info/

Sensory Processing for Parents and Professionals: Advice, Activities, and Games
http://www.sensoryprocessing.info/games/index.html

**Sensory Products available for purchase:**

Abilitations (School Specialty)
www.abilitations.com

Achievement Products ® for Special Needs

Autism Products
http://www.autism-products.com

Fun and Function
www.funandfunction.com

Got Autism? Resources for Autism Products
http://www.got-autism.com

Sensory Craver Therapeutic products
http://www.sensorycraver.com/

Southpaw Enterprises, Inc.
http://www.southpawenterprises.com/

Shop Sensory
www.shopsensory.com/

Therapro
http://www.therapro.com/

**Other possibly helpful websites:**

American Hippotherapy Association
http://www.americanhippotherapyassociation.org

North American Riding for the Handicapped Association
www.narha.org
Asperger Support
http://www.aspergersyndrome.org/

Kennedy Krieger Institute
http://www.kennedykrieger.org/

Sense-Able Baby™
www.sense-ablebaby.com

Sensory Focus
http://www.sensoryworld.com/SensoryFocus.aspx

Sensory Planet
http://www.sensoryplanet.com/home.php

SPD Parent Zone Organization
www.spdparentzone.org
Helpful books for parents and professionals:

Building bridges through sensory integration: Therapy for children with autism and other pervasive developmental disorders.  
*By: Ellen Yack OTR/L, Paula Aquilla OTR/L, and Shirley Sutton OTR/L*

This resource was written by three occupational therapists whose areas of expertise include sensory integration, autism, learning disabilities, and enhancing motor skills. The book is broken down into two parts. The first of which includes information on the theory of sensory integration, OT’s role in sensory treatments, and information on the sensory systems. The second part of the book provides several checklists that can be used as screening tools for those with sensory difficulties. They also provide strategies for managing difficult behaviors, promoting self-care skills, sensory diet activities, and homemade equipment ideas.

The out-of-sync child: Recognizing and coping with sensory processing disorder.  
*By: Carol Stock Kranowitz, M.A.*

The Out-of-Sync Child provides excellent background information about sensory processing disorder and how it can affect a child’s behavior. The book is broken down into three parts: Part one contains the background information concerning SPD, checklists, and a questionnaire of symptoms, associated problems, and commonly seen characteristics in out-of-sync children. Part two includes criteria and guidance for obtaining a SPD diagnosis and treatment options for the children. Part three discusses how therapy treatments impact and positively affect children’s sensory systems.

The out-of-sync child has fun: Activities for kids with sensory integration dysfunction.  
*By: Carol Stock Kranowitz, M.A.*

This resource serves as a companion to the first version of Carol Kranowitz’s book titled *The Out-of-Sync Child.* In this book, she provides 115 practical techniques and ideas that can be used to help strengthen a child’s sensory development. Each chapter is conveniently broken down by the sensory system or the developmental skill that is being targeted by the actions in the chapter. For each idea, she provides ways in which the adult could adapt or modify the occupation so that the child can be more successful or challenged further.

Raising a sensory smart child: The definitive handbook for helping your child with sensory processing issues.  
*By: Lindsay Biel, OTR/L and Nancy Peske.*

This is a very helpful guide for those looking to have a thorough yet easy-to-read explanation of the sensory systems, sensory problems, and practical solutions to these problems. The book provides an easy-to-read explanation of sensory processing disorder, how it manifests in children, and everyday solutions for the various symptoms and characteristics. The authors demonstrate a thorough understanding of the issues that children often experience as they navigate a sensory-heavy world. In addition to understanding the problems, they share simple strategies with the readers.
Sensational kids: Hope and help for children with sensory processing disorder (SPD).
*By: Lucy Jane Miller, OTR/L*

This resource provides a thorough explanation of SPD including the science behind the disorder. It goes beyond what most parents of children with SPD are looking for in a resource, but the information is very interesting and relevant. The author uses fictional cases, which provide the reader with an in-depth view of how overwhelming sensations can feel for children and the impact they can have on the entire family. *Sensational Kids* truly helps the reader understand the authenticity of the diagnosis and the significance of occupational therapy in treating the diagnosis.

*By: Karen A. Smith, Ph.D and Karen R. Gouze, Ph.D.*

The authors aim to help parents raise a happier child by informing parents of how to look at their child’s behaviors through a “sensory lens.” They discuss the latest scientific research on sensory integration and how it applies to children’s behaviors. They also help parents recognize sensory processing problems and understand what treatment options are available for them. Lastly, the authors provide strategies for handling sensory integration and processing problems at home, school, and out in public. Overall, this resource acts as a guide to help parents control their child’s daily behavior while understanding the sensory basis behind many behaviors.

Tools for tots.
*By: Diana A. Henry, OTR/L, Maureen Kane-Wineland, Ph.D., OTR/L, and Susan Swindman, OTR/L*

This resource is written by occupational therapists that are experienced with working with children with developmental disabilities and sensory issues. It provides practical sensory solutions to improve the ability of toddlers and preschoolers to function in their given environments. A variety of sensory activities and environmental strategies are offered for children who have difficulty with daily care skills and overall sensory processing. Lastly, the reader can learn how to promote engagement and help Touchy Tots, Sensitive Ears, Busy Bees, Fumbling Tots, Tippy Toe Tots, and Spirited Tots.

Understanding your child’s sensory signals: A practical daily use handbook for parents and teachers.
*By: Angie Voss, OTR/L*

This resource is a practical, everyday application handbook for parents, teachers, and caregivers to help them understand certain behaviors as possible sensory signals. The author will list a certain behavior (e.g. bites self or others), state the sensory category it falls into (e.g. oral sensory and proprioception), and then offers strategies to help alleviate the sensory signal. The book contains over 110 different sensory signals and provides strategies, which caregivers can attempt in order to stop or decrease the signal.
Your essential guide to understanding sensory processing disorder.

By: Angie Voss, OTR/L

This resource acts as a very basic guide to the seven senses and how they can be treated through occupational therapy treatments. The author describes the benefits of providing tactile, proprioceptive, and vestibular input to children with sensory processing disorder. Furthermore, the author explains key terms regarding sensory processing in language that is understandable to individuals who are not occupational therapists. For each sensory system, the author describes what techniques could be used to try and alert or calm a child. Overall, this workbook is a practical guide and tool for parents and teachers that help the reader grasp sensory concepts and effective sensory diet ideas quickly.
Appendix H

Budget
<table>
<thead>
<tr>
<th>Personnel</th>
<th>Position</th>
<th>Hours/week</th>
<th>Wage per hour</th>
<th>Total</th>
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<tbody>
<tr>
<td>Program Occupational Therapist</td>
<td>15</td>
<td>$40.00</td>
<td></td>
<td>$23,400.00</td>
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<tr>
<td>Occupational Therapy Aide</td>
<td>10</td>
<td>$13.50</td>
<td></td>
<td>$5,265.20</td>
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<tr>
<td><strong>Subtotal:</strong></td>
<td></td>
<td></td>
<td></td>
<td><strong>$28,665.00</strong></td>
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<table>
<thead>
<tr>
<th>Program Supplies and Equipment</th>
<th>Item</th>
<th>Quantity</th>
<th>Cost per item</th>
<th>Total Cost</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>The Sensory Integration Inventory- Revised</td>
<td>1 Inventory guide</td>
<td>$18.95</td>
<td>$60.80</td>
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<tr>
<td></td>
<td></td>
<td>3 packages of scoring forms (20 each)</td>
<td>3 x $13.95 = $41.85</td>
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<tr>
<td></td>
<td>The Short Sensory Profile and score sheets</td>
<td>2 packages (25 each)</td>
<td>$62.00</td>
<td>$124.00</td>
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<td></td>
<td>The Sensory Profile- School Companion Teacher guides and score sheets</td>
<td>2 packages (25 each)</td>
<td>$83.50</td>
<td>$167.00</td>
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<td></td>
<td>Scooter boards</td>
<td>4</td>
<td>$20.00</td>
<td>$80.00</td>
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<td></td>
<td>Weighted vests</td>
<td>4</td>
<td>$50.00</td>
<td>$200.00</td>
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<td></td>
<td>Ankle weights</td>
<td>4</td>
<td>$15.00</td>
<td>$60.00</td>
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<td></td>
<td>Balance boards</td>
<td>8</td>
<td>$35.00</td>
<td>$280.00</td>
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<td></td>
<td>Therapy balls</td>
<td>4</td>
<td>$12.00</td>
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<td>Hoppity Hops</td>
<td>4</td>
<td>$25.00</td>
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<td></td>
<td>Jump ropes</td>
<td>8</td>
<td>$6.00</td>
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<td>Caterpillar clothes</td>
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<td>$50.00</td>
<td>$100.00</td>
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<td></td>
<td>Bean bags</td>
<td>1</td>
<td>$20.00</td>
<td>$20.00</td>
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<tr>
<td></td>
<td>Velcro catch</td>
<td>4</td>
<td>$6.00</td>
<td>$24.00</td>
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<td></td>
<td>Plastic bowling pins</td>
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<td></td>
<td>Balloons</td>
<td>5</td>
<td>$1.00</td>
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<td></td>
<td>Nerf Poof balls</td>
<td>2</td>
<td>$5.00</td>
<td>$10.00</td>
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<tr>
<td></td>
<td>Trampoline (6’6”)</td>
<td>1</td>
<td>$292.00</td>
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<td></td>
<td>Slide</td>
<td>1</td>
<td>$135.00</td>
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<td></td>
<td>Teeter-totter</td>
<td>1</td>
<td>$70.00</td>
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<td></td>
<td>Postage stamps</td>
<td>8 (packs of 20)</td>
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<td></td>
<td>File folders</td>
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<td>Office Supplies</td>
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<td><strong>1,798.80</strong></td>
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Total cost (with the exception of in-kind costs): **$30,463.80**
## In-Kind Program Supplies and Equipment

<table>
<thead>
<tr>
<th>Item</th>
<th>Quantity</th>
<th>Cost per Item</th>
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<tr>
<td>Printer</td>
<td>1</td>
<td>$150.00</td>
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<tr>
<td>Ink</td>
<td>2</td>
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<td>Printer paper</td>
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<td>$5.00</td>
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<tr>
<td>Envelopes</td>
<td>2</td>
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<tr>
<td>Platform swings</td>
<td>2</td>
<td>$200.00</td>
<td>$200.00</td>
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<tr>
<td>Hammock Swings</td>
<td>2</td>
<td>$60.00</td>
<td>$120.00</td>
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<tr>
<td>Bolster Swings</td>
<td>2</td>
<td>$330.00</td>
<td>$660.00</td>
</tr>
<tr>
<td>Padded mats</td>
<td>10</td>
<td>$25.00</td>
<td>$250.00</td>
</tr>
<tr>
<td>Other miscellaneous equipment</td>
<td></td>
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<td>$300.00</td>
</tr>
<tr>
<td>Filing Cabinet</td>
<td>1</td>
<td>$100.00</td>
<td>$100.00</td>
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<tr>
<td>Apple Computer with internet access</td>
<td>1</td>
<td>$1,300.00</td>
<td>$1,300.00</td>
</tr>
<tr>
<td>SmartBoard</td>
<td>2</td>
<td>$3000.00</td>
<td>$6000.00</td>
</tr>
<tr>
<td>Utilities (Heat, lighting, water, plumbing)</td>
<td>Monthly payment of each</td>
<td>-</td>
<td>$300.00</td>
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<tr>
<td>Internet</td>
<td></td>
<td>Monthly payment of each for one computer</td>
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<tr>
<td>Miscellaneous upkeep</td>
<td></td>
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<td>$500.00</td>
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**Subtotal:** $10,025.00

Total In-Kind Costs per year: **$10,025.00**

Total Overall Costs: **$40,488.80**
Appendix I

Position Description – Occupational Therapist
Position Description - Occupational Therapist

Position Title: Occupational Therapist, OT SLIDE Program Director

Professional Qualifications:
- Licensed in the State of Michigan
- Registered by the National Board for Certification in Occupational Therapy
- Minimum of a Bachelor degree in occupational therapy
- Preferably a Master’s Degree or higher in occupational therapy
- At least two years of experience with individuals with developmental disabilities
- Preferred minimum of one year of experience in a community-based setting

Reports to: Elizabeth Taylor, Assistant Superintendent in the Human Resources and Legal Counsel Department

Duties and Responsibilities:
- Create marketing tools to market program
- Create presentations for families
- Create presentations for educational stakeholders
- Develop and implement sensory-based occupations twice a day, five days a week
- Administer and score The Sensory Integration Inventory-Revised
- Score The Short Sensory Profile
- Score The Sensory Profile- School Companion
- Observe students in classrooms outside of program time
- Create flyers and educational handouts for caregivers
- Market to various stakeholders prior to school year
- Administer formative and summative evaluations concerning program efficacy
- Document weekly observations of students
- Communicate daily with other professionals (e.g. teachers, PTs, SLPs, etc.)
- Comply with the occupational therapy licensure and certification regulations
- Attend relevant continuing education programs

Skills and Specifications:
- Demonstrate adequate effective interpersonal and communication skills
- Demonstrate self-awareness and an ability to think things through
- Display knowledge and understanding of Ayres’ sensory integration
- Demonstrate a high level of organization
- Ability to work independently and as a team
- Strong documentation skills
- Efficient problem solving skills
- High level of energy
- Proficient at Microsoft Word, PowerPoint and Excel

Working Conditions:
You will be working at the Monroe County Intermediate School District Educational Center for children with developmental disabilities. You will be moving between two classrooms and the gymnasium.
Physical Capabilities: Should be an active individual who is able to be on their feet for a long period of time. May need to be able to lift 25 pounds over your head at some points in time. Also needs to demonstrate a high level of patience and persistence.
Appendix J

Position Description – Occupational Therapy Aide
Position Description – Occupational Therapy Aide

Position Title: Occupational Therapy Aide, OT SLIDE Program Assistant

Professional Qualifications:
- High School Diploma
- Preferably, some college experience (e.g. Associate’s Degree)
- At least two years of experience with individuals with developmental disabilities
- Preferred minimum of one year of experience in a community-based setting
- No criminal background

Reports to: Director of the OT SLIDE Program who is an Occupational Therapist. Also, to Elizabeth Taylor, Assistant Superintendent in the Human Resources and Legal Counsel Department

Duties and Responsibilities:
- Assist the occupational therapist in various sensory-based learning occupations
- Direct children and facilitate engagement in occupations
- Ensure safety during sensory-based occupations
- Communicate daily with other professionals (e.g. teachers, PTs, SLPs, etc.)

Skills and Specifications:
- Demonstrate and maintain positive and patient attitude while working with students
- Demonstrate adequate effective interpersonal and communication skills
- Demonstrate self-awareness and an ability to think things through
- Display observation and listening skills
- Demonstrate basic data tracking abilities (e.g. track behaviors using a checklist)
- Interest in working with children with developmental or intellectual disabilities

Working Conditions:
You will be working at the Monroe County Intermediate School District Educational Center for children with developmental disabilities. You will be working with two classrooms, a gymnasium, and an occupational therapy room.

Physical Capabilities: Should be an active individual who is able to be on their feet for a long period of time. Must be able to lift 25 pounds over your head at some points in time. Also needs to demonstrate a high level of patience and persistence.
Appendix K

Job Advertisement Flyer
Part-Time Occupational Therapist Needed!

MCISD Educational Center
Occupational Therapy: Sensory Learning in Developmental Education (OT SLIDE)
Program Director

The Monroe County Intermediate School District (ISD) promotes educational excellence by serving in a visionary leadership role to collaborate and facilitate improvement of school programs and services. These efforts will be driven by pertinent research, continual assessment of needs, and coordination of community resources. As a result, county students are prepared to live, learn, and work in an ever-changing world.

Requirements:
• Licensed in Michigan
• Registered by NBCOT
• 2 years of experience with individuals that have developmental disabilities
• Hard-working!
• Goal-driven!

For more information, feel free to contact: Elizabeth Taylor via email at Elzabethtaylor@monroecisd.edu
Appendix L

Special Education Teacher Evaluation of OT SLIDE Program
Special Education Teacher Evaluation of OT SLIDE Program

Please indicate your response by placing a check in the corresponding box.

1=Strongly Disagree, 2=Disagree, 3=Neutral, 4=Agree, 5=Strongly Agree

<table>
<thead>
<tr>
<th></th>
<th>1</th>
<th>2</th>
<th>3</th>
<th>4</th>
<th>5</th>
<th>Comments</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. The students appeared to enjoy the OT SLIDE Program.</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>2. The students were able to be successful in all of the program tasks.</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>3. The students were actively engaged in the program tasks.</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>4. It was easy to implement the program within the daily routine.</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>5. The program appeared to have a noticeable impact on the students’ behavior(s).</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>6. The program appeared to have a noticeable impact on students’ engagement.</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>7. The OT was effective at implementing the program tasks and at conducting the group in an efficient manner.</td>
<td></td>
<td></td>
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<td></td>
<td></td>
</tr>
<tr>
<td>8. The OT provided me with additional information and resources to help with student issues.</td>
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<td>9. Parents have contacted me to convey satisfaction with the program.</td>
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<td>10. I would recommend this program be implemented in other classrooms.</td>
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</table>

Any additional comments, recommendations, or questions?
Appendix M

Caregiver Evaluation of OT SLIDE Program
Caregiver Evaluation of OT SLIDE Program

Please indicate your response by placing a check in the corresponding box.

<table>
<thead>
<tr>
<th>1=Strongly Disagree, 2=Disagree, 3=Neutral, 4=Agree, 5=Strongly Agree</th>
<th>1</th>
<th>2</th>
<th>3</th>
<th>4</th>
<th>5</th>
<th>Comments</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. My child appeared to enjoy the tasks described by the OT.</td>
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<td>2. My child showed less negative behaviors after engaging in the tasks provided by the OT and by the resources given by the OT.</td>
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<td>3. My child was more attentive after engaging in the provided tasks.</td>
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<td>4. My child demonstrated an improvement on academic scores after the implementation of the OT SLIDE Program.</td>
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<td>5. The materials and resources provided by the OT were understandable and thorough.</td>
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<td>6. The materials and resources for the sensory strategies were easy to imitate and use at home.</td>
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<td>7. The OT communicated with us through email and/or standard mail.</td>
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<td>8. The OT responded to questions or concerns in a timely manner.</td>
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<td>9. The OT seemed professional, knowledgeable, and confident in sensory information.</td>
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<td>10. Overall, I have seen a noticeable and positive difference in my child’s behavior at home.</td>
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Any additional comments, recommendations, or questions?
Appendix N

Timeline
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<tbody>
<tr>
<td>Task</td>
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**Timeframe for Fall Semester**
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<th>4</th>
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<th>8</th>
<th>9-11</th>
<th>12</th>
<th>13</th>
<th>14</th>
<th>15</th>
<th>16</th>
<th>17-20</th>
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</table>

Timeline for Winter Semester
Appendix O

Letter of Support
April 28, 2013

To whom it may concern:

My name is Elizabeth Taylor and I am the Assistant Superintendent in the Human Resources and Legal Counsel Department for the Monroe County Intermediate School District. I am writing this letter to provide support to Michael Iott, a Doctorate of Occupational Therapy Student at the University of Toledo. A few months ago he contacted me via email regarding the possibility of creating and implementing a sensory processing program that reinforces the academic curriculum of the students at The Educational Center. I could tell by the email that this young man was a professional who was passionate about the field of pediatric occupational therapy. Through continued communication with Mr. Iott, we have discussed the need for a sensory learning program that aims to increase meaning in the lives of the students and strengthen their academic potential while at The Educational Center. Our vision here at MCISD is to promote educational excellence by serving in a visionary leadership role to collaborate and facilitate improvement of school programs and services. The implementation of The OT SLIDE Program will not only improve the curriculum currently available, but it will also help our students flourish in their learning environment. All too often, we get caught up in the traditional style of schooling, but thanks to the uniqueness of this program, that will no longer be the case.

The OT SLIDE Program provides unique sensory occupations that aim to improve students’ engagement in occupationally embedded classwork and decrease the frequency of negative behaviors. Both of these objectives will help our center run more efficiently and more calmly. This program has the potential to be something great and we here at The Educational Center are going to make sure that it prospers.

In addition, we are positive that you would benefit from the OT SLIDE Program as well. I hope that everyone, not just us, is able to acknowledge the importance of this program for all individuals with developmental disabilities. Thank you for your time.

Sincerely,

Elizabeth Taylor
Assistant Superintendent in the Human Resources and Legal Counsel Department