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Education and Sensory Friendliness in Community Settings

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A capstone project submitted in partial fulfillment for the requirements of the Doctor of Occupational Therapy degree from the University of Indianapolis, School of Occupational Therapy.

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# A Capstone Project Entitled

Education and Sensory Friendliness in Community Settings

Submitted to the School of Occupational Therapy at University of Indianapolis in partial fulfillment for the requirements of the Doctor of Occupational Therapy degree

By

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### Abstract

The Lafayette Family YMCA established a community partnership with Franciscan Health and the two organizations are a part of a building that offers services from both organizations. The purposes of this doctoral capstone were: 1) To help build the relationship between Franciscan Health and the Lafayette Family YMCA and, 2) Provide education to community organizations on the sensory systems. To obtain an understanding of the needs of Franciscan Health and the Lafayette Family YMCA, a needs assessment took place, which consisted of qualitative interviews, observations, and surveys. Based on the results from the needs assessment, the implementation phase of the project involved giving presentations on the sensory systems to multiple community organizations, developing a YMCA exercise class guide for Franciscan Health therapists, leading tours of Franciscan Health for YMCA staff, and developing an outline for a sensory friendly program for the YMCA. Overall, the completed projects had a positive outcome. The presentations on the sensory systems received excellent feedback. The YMCA exercise guide was helpful for therapists to reference. The YMCA staff learned about the services Franciscan Health offers through attending tours, and the sensory friendly program outline provided a starting point for creating a sensory friendly event at the YMCA in the future. Dissemination of the doctoral capstone outcomes occurred with both Franciscan Health and Lafayette Family YMCA staff. Ongoing quality improvement will continue to occur after the completion of the doctoral capstone.

### Education and Sensory Friendliness

The Lafayette Family YMCA has established a new community partnership with Franciscan Health. The two organizations are a part of a new building that offers both Franciscan Health and YMCA services. In December 2018, the building officially opened for public use. The Franciscan Health portion of the building includes the Franciscan Physician Network Primary Care and Sports Medicine offices on the main floor and outpatient therapy services for pediatrics and adults on the second floor. The YMCA includes workout equipment, group fitness rooms, a child watch center, daycare, pool, and a Junior Achievement Center. The clients that receive therapy through Franciscan Health share equipment and resources with the YMCA. After a client finishes outpatient services through Franciscan Health, they receive a free three-month membership to the YMCA. The idea is to help promote health and fitness while meeting the needs of members in the community. Due to the novel partnership between the two organizations, it was important to meet the needs of both establishments. Thus, the purpose of this doctoral capstone experience (DCE) was to help build the relationship between Franciscan Health and the Lafayette Family YMCA and provide education on sensory systems and sensory processing to community organizations.

### **Sensory Regulation**

Self-regulation is a technique that allows one to control their psychological and physical self (Kalimullin, Kuvaldina, & Koinova-Zoellner, 2016). Self-regulation techniques can lower ones agitation and tension, help one overcome fears, and improve stress-resistance (Kalimullin et al., 2016). Sensory rooms are one way to help persons with sensory regulation difficulties calm and control their reactions.

The goal of a sensory room is to help individuals self-regulate via an environment that enables sensory modulation and offers a quiet space for someone to decompress and use sensory tools (Seckman, Paun, Heipp, Van Stee, Keels-Lowe, Beel, ... Delaney, 2017). Without proper sensory modulation, an individual may over-respond or under-respond to a stimulus (Seckman et al., 2017). If a stimulus is perceived inadequately, an individual may become agitated or aggressive (Purvis, McKenzie, Becker-Razuri, Cross, & Buckwalter, 2014). Sensory processing difficulties can negatively affect a person's capability to function in their everyday life (Schoen & Miller, 2018). If one of the senses is impaired, this affects a person's ability to learn so it is important to provide an environment conducive for a wide variety of individuals including persons with autism spectrum disorder (ASD), sensory processing disorder (SPD), attention deficit/hyperactivity disorder (ADHD), anxiety, and concussions (Noddings, 2017).

Sensory stimulation is inherent at community facilities, such as the Lafayette Family YMCA. Thus, it is important to provide education on how the Lafayette Family YMCA can become more sensory friendly. Sensory friendly means adjusting an environment or programs auditory, visual, and olfactory stimulation levels to make it appropriate for persons with sensory processing difficulties (Autism Society of Minnesota, 2019). There are an abundance of programs that take place at the Lafayette Family YMCA such as Zumba, Pilates, Barre, swim lessons, and other numerous workout programs. The programs offered at the YMCA generate a large amount of sensory stimulation. Examples of such stimulation include bright overhead lights, music from fitness classes, noise from machines, and the smell from the pool. The YMCA staff would benefit from receiving education on the importance of a sensory room and sensory friendliness. By providing this education, it can allow the YMCA staff to think of ways the facility can become more sensory friendly and how creating a sensory room would be beneficial.

In addition to this education, it is important to instruct the YMCA staff on the ways they can identify an individual who displays symptoms of poor sensory processing or modulation and how they can support this individual.

### **Community-Participation**

Currently at the YMCA, there are no sensory friendly events or activities. It is essential that children with disabilities engage in community-based events early in their lives to promote motor development and social skills (Shields & Synnot, 2016). Children with disabilities often do not have the chance to engage in recreational activities due to a number of factors such as social isolation from peers, physical limitations, and a lack of community-organized activities specifically for those with disabilities (Ryan, Katsiyannis, Cadorette, Hodge, & Markham, 2014). Community-based programs can have health and behavioral benefits for people with autism or sensory processing difficulties (Jull & Mirenda, 2016). Thus, it is important to develop an inclusive program protocols so there are more locally based community resources for individuals with disabilities, specifically for those who experience symptoms of poor sensory processing.

### **Education**

In addition to there being a lack of locally based programs for persons with disabilities, there is an increasing need for these programs to have staff members who are knowledgeable about working with persons who have diagnoses that involve sensory processing impairments (Ryan et al., 2014; Jull & Mirenda, 2016). The lack of staff training may prevent parents from enrolling their child(ren) with autism into a community-based program (Jull & Mirenda, 2016).

Occupational therapists along with healthcare professionals from other disciplines need to assist community fitness staff by providing them with the education and training they need in order to

implement safe and effective programs for children with disabilities (Fragala-Pinkham, Haley, & Goodgold, 2006).

Community organizations are beginning to understand the importance of making accommodations for individuals with sensory processing difficulties. The occupations of an individual can be restricted if there is a lack of community-based programs for those with sensory difficulties or a lack of community staff understanding regarding sensory problems (Silverman & Tyszka, 2017). It is crucial to provide education to community staff on the importance of the sensory system so that persons experiencing sensory impairments feel more comfortable and less agitated while engaging in community occupations, such as working out at the YMCA (Kalimullin et al., 2016). Parents who have children with sensory processing problems identified that when visiting a community-based setting, it is important to have staff who are educated on the sensory system so they understand the needs of the family (Silverman & Tyszka, 2017). In addition, parents who have a child with autism expressed an enhanced sense of well-being when they attend sensory friendly events (Silverman & Tyszka, 2017). By providing education to community staff members, the staff can feel more comfortable and confident interacting with individuals who may be experiencing sensory regulation difficulties. Providing education on the sensory systems can allow community staff to be comfortable leading sensory friendly events. Therefore, it is important to educate YMCA staff on the importance of the sensory systems and sensory processing so they can better serve the persons in their community.

### **Occupational Therapy Practice Areas**

Occupational therapists who work in traditional settings may work in areas such as skilled nursing facilities, hospitals, outpatient facilities, and within the school system.

Occupational therapists who are practicing in the more traditional settings often educate their

clients on the importance of engaging in the community in order to build social support and maintain overall health and wellness. Although occupational therapists provide recommendations for ways to partake in community events, an individual may not follow through. Occupational therapists are helping address this issue by expanding their area of practice and working in more non-traditional settings. One such area is in community health and wellness centers. Through this project, a more traditional outpatient based occupational therapy practice area (Franciscan Health) coincides with an emerging community health and wellness practice area (YMCA). Together, the Lafayette Family YMCA and Franciscan Health can promote health and wellness within their community and help the community members continue to engage in meaningful occupations.

### **Kawa Model**

The model that will help guide this project is the Kawa model. The focus of the Kawa model is to enable and enhance one's own life flow (Iwama, Thomson, & MacDonald, 2009). According to the Kawa model, context plays a large role in determining the function of an individual's occupation (Iwama et al., 2009). The model uses a river to depict an individual's life flow with the overall goal of the individual to have an unimpeded life flow (Iwama et al., 2009). The upstream of the river depicts one's past while the downstream depicts one's future (Iwama et al., 2009). The rocks within the model depict one's own barriers in life (Iwama et al., 2009). Specific circumstances can impede one's life flow and cause rocks to build within the river (Iwama et al., 2009).

Occupational therapy plays a role in helping eliminate the "rocks" or barriers to create space within the "river" or environment in order to increase an individual's "life flow" or occupational performance. Within the Lafayette Family YMCA, there is a lack of events for

individuals who experience problems with sensory processing. The lack of sensory friendly events for those with sensory processing difficulties at the Lafayette Family YMCA may impede one's life flow. A possible reason for the lack of sensory friendly events at the YMCA may be due to the YMCA staff not understanding what an individual with sensory processing difficulties face. Through this doctoral capstone project, the barriers or 'rocks' the YMCA staff face in regards to knowledge about the sensory system will be identified. Educational sessions will take place to help YMCA staff members overcome these barriers. Furthermore, the barriers of creating a sensory friendly program within the YMCA will be identified and addressed through research, education, and creating a program protocol.

### **Theory of Reasoned Action**

The theory that will help guide this project is the Theory of Reasoned Action (TRA). TRA assumes that two constructs guide a person's behavioral intention (Dippel, Hanson, McMahan, Griese, & Kenyon, 2017). The first construct is attitude, which is a positive or negative feeling attached to a specific behavior (Dippel et al., 2017). The second construct is subjective norms, which are perceptions of social norms and the person's incentive to adhere to these normative beliefs (Dippel et al., 2017).

By utilizing the TRA, the YMCA staff will gain a better understanding of the sensory system through education on the senses and diagnoses that involve accompanying sensory processing difficulties. The YMCA staff will learn how to identify someone who may be experiencing sensory processing difficulties and learn strategies as to how they can help them in the YMCA. Currently, the YMCA staff may have negative feelings and perceive those with sensory regulation difficulties as against the social norms. However, by gaining an understanding of the sensory system, the YMCA staff will know how to make accommodations for YMCA

members with sensory regulation difficulties. Additionally, the YMCA staff may tune into their own sensory system and make positive health adjustments in their own lives.

### **Screening/Evaluation**

Without having a clear description of need, it is almost impossible to objectively evaluate and develop a justifiable plan (Watkins & Kavale, 2014). To obtain a clear understanding of the needs of Franciscan Health and the Lafayette Family YMCA, a needs assessment was conducted which consisted of qualitative interviews, observations, and surveys.

### **Assessments**

**Interviews.** Qualitative, face-to-face interviews occurred during the first two weeks of the project and took place with Franciscan Health and YMCA staff. Interviews with Franciscan Health staff consisted of talking with management as well as occupational, physical, and speech therapists. The interviews with YMCA staff involved talking with management, wellness coaches, and instructors. Wellness coaches at the YMCA are in charge of helping members with equipment, cleaning the workout area, and ensuring members are using equipment appropriately. The instructors at the YMCA are responsible for running different fitness programs through the YMCA such as yoga or Pilates. Interview questions included asking personnel: What are the needs of the facility and what can be done to meet those needs?

**Observations.** In addition to interviews, qualitative observations of the YMCA workout center/classes and Franciscan Health therapy sessions took place throughout the project. Observations at the YMCA consisted of observing the workout floor as well as fitness classes. Observing at Franciscan Health consisted of shadowing an occupational, speech, or physical therapist and learning more about the therapy process and equipment used to help treat clients. Observations took place in multiple settings: acute care, neonatal intensive care unit,

rehabilitation unit, and outpatient. A majority of the observations occurred in the pediatric and adult outpatient setting.

**Surveys.** Lastly, qualitative surveys were distributed to YMCA wellness coaches to gain an understanding of their knowledge regarding the sensory system. Additional questions were asked such as willingness to take a guided tour of the Franciscan Health building (See Appendix A).

### **Assessment Results**

**Interviews.** The staff from Franciscan Health stated that it would be beneficial to provide education to the YMCA staff on how the facility can become more sensory friendly. The staff mentioned that the YMCA has a lot of sensory stimulation, for example, loud music from fitness classes. Franciscan Health staff also mentioned that it would be helpful to have a better understanding of what the YMCA offers and how the staff can relay this information to their clients.

The YMCA staff, specifically the wellness coaches, wanted to learn more about the services offered through Franciscan Health. By understanding, the services offered through Franciscan Health, the YMCA staff could help their members by adequately answering questions regarding the services Franciscan Health offers. Additionally, some of the instructors at the YMCA wanted to learn ways to adapt their classes to help prevent injury.

**Observations.** While observing in the gym area at the YMCA, the evening hours were much busier and louder than during the morning hours. During exercise classes, observations of program adaptability, intensity, and body mechanics of participants took place. While observing at Franciscan Health, the DCE student gained a better understanding of diagnoses and treatment

interventions from various therapists. Additionally, the DCE student learned how to address and treat individuals with sensory processing difficulties

**Surveys.** In total, 12 wellness coaches from the YMCA completed the survey. When participants were asked if they understood the term “sensory friendly”, the results were as follows: disagree (16.7%), neutral (16.7%), agree (41.7%), and strongly agree (25%). When asked to define the term “sensory friendly” a majority of the participants included phrases that involved decreasing the light or sound of an area. One participant stated that sensory friendly refers to “Adapting to others special needs when it comes to sound & visuals of the space.” Another participant provided this definition, “(An) environment that is sensitive to personal experience or disorder, considerate of all.”

When participants were asked if they were familiar with what a sensory room was, a majority of participants (75%) said yes, they were familiar. Although participants mentioned they were familiar with a sensory room and had a general understanding of the term “sensory friendliness”, 75% of participants said they had received no educational background on diagnoses that involve sensory processing difficulties. Additionally, more than half of the participants (67.7%) stated that they had not worked with anyone who was experiencing sensory processing impairments. Almost the entire sample (91.6%) said an educational presentation on the sensory systems would be helpful and that they would attend a tour of the Franciscan Health building. When asked what diagnoses would be helpful to learn more information on, autism was the number one diagnosis that participants listed. Other diagnoses participants listed included down syndrome, schizophrenia, and epilepsy.

### **Implementation**

In order to meet the needs of Franciscan Health, the Lafayette Family YMCA, and the needs of the community, several projects took place. The projects involved giving presentations on the sensory systems and sensory processing, developing a YMCA exercise class guide for Franciscan Health therapists, leading tours of Franciscan Health for YMCA wellness coaches, and developing a sensory friendly program outline for the YMCA.

### **Presentations**

To address the need for YMCA staff education on sensory friendliness, interactive PowerPoint presentations took place. In addition to the presentations for the YMCA staff, presentations on the sensory systems and sensory processing also occurred within the community. E-mails were sent to organizations within the West Lafayette and Lafayette, IN area inquiring about their interest in a presentation on sensory processing geared toward their organization. Two organizations responded with interest in a presentation: Kiddie Kollege and the St. Elizabeth School of Nursing. Kiddie Kollege is a preschool and childcare center for infants through kindergarten-aged children. The St. Elizabeth School of Nursing is associated with Franciscan Health and requested a presentation on the sensory systems and sensory processing for one of their nursing classes.

**YMCA.** The Lafayette Family YMCA wellness coaches expressed interest in attending a presentation on the sensory systems and sensory processing. Five presentations, lasting 60-minutes each, took place in the YMCA staff conference room. There were multiple times and sessions offered to make it easier for the wellness coaches to attend the presentation. The topics of the presentation included: information on the eight sensory systems (visual, auditory, gustatory, olfactory, tactile, proprioception, vestibular, interoception), what to expect if an individual has a sensory processing impairment, and information on how the sensory systems

relate to being a wellness coach at the YMCA. Throughout the PowerPoint presentations, videos and interactive labs took place to help engage the attendees.

**Kiddie Kollege.** One 60-minute presentation took place on a weeknight at Kiddie Kollege for their staff. Twelve staff members attended the presentation. The topics of the presentation included: information on the eight sensory systems (visual, auditory, gustatory, olfactory, tactile, proprioception, vestibular, interoception), the development of the sensory systems, diagnoses that have common sensory processing impairments, and ways to implement sensory activities within the classroom. In addition to the PowerPoint presentation, the staff received a handout listing different sensory activities (See Appendix C).

**St. Elizabeth School of Nursing.** A single two-hour presentation took place at St. Elizabeth School of Nursing during one of the nursing class sessions. In total seven students were in class for the presentation along with the professor. The topics of the presentation included: the eight sensory systems (visual, auditory, gustatory, olfactory, tactile, proprioception, vestibular, interoception), diagnoses that have associated sensory processing impairments, information on how the sensory systems relate to nursing, and a lab session for each of the senses.

### **YMCA Exercise Class Guide**

A YMCA Exercise Class Guide was established for the Franciscan Health therapy team. The program guide explains fitness classes that occur through the YMCA. The researcher personally attended at least one session of each of the classes. Examples of such classes include yoga, Pilates, Tai Chi, Turbo Kick, Body Pump, Zumba, along with numerous other classes. Attending the programs in person allowed for personal feedback on the classes. The description of the classes included information on: cardio level, flexibility, strength, microphone use, light

intensity, equipment use, and a personal statement regarding the overall intensity and workout environment. In addition, recommendations as to what patient populations the classes would be appropriate for were included in the program guide.

### **Tours of Franciscan Health**

The YMCA staff, specifically the wellness coaches, wanted to learn more about the services offered through Franciscan Health. In order to accomplish this and help build the relationship between the Lafayette Family YMCA and Franciscan Health, tours were given to the YMCA staff of the Franciscan Health building. Several times and dates were available for the wellness coaches to attend a tour of the Franciscan Health building. The tours consisted of explaining the different therapy disciplines such as occupational, speech, and physical therapy along with the equipment and services offered through Franciscan Health.

### **Sensory Friendly Program Outline**

The sensory friendly program outlines the specific steps and tools needed in order to carry out the program. To help write and establish this outline, the researcher visited the Jackson R. Lehman YMCA in Fort Wayne, IN. The Jackson R. Lehman YMCA has programs that are sensory friendly as well as programs that are for individuals with physical or cognitive impairments. In addition to the programs, the Jackson R. Lehman YMCA has a sensory room. The sensory room is free to use by any member of the community, an individual does not have to be a YMCA member to use the sensory room. During the visit, the director of adaptive services explained the programs in detail and provided a tour of the sensory room. A sensory friendly event was also attended so that a better understanding of how to develop the sensory friendly program specific to the Lafayette Family YMCA could be established.

The sensory friendly program outline is titled “Sensory Friendly Summer Bash.” The outline provides a detailed description of what activities could take place during the event. Examples of the activities include arts and crafts, pool time, and open gym activities. See Appendix F for entire program outline.

## **Outcomes**

### **Presentations**

Overall, the presentations received positive feedback. The presentations allowed individuals from community organizations to learn more about the sensory systems and sensory processing.

**YMCA.** After the presentation, a post-survey was administered to the YMCA staff (See Appendix B). In total, nine YMCA staff attended the presentations. Participants were asked to rate their understanding of the term “sensory friendly” with 44.4% agreeing and 55.6% strongly agreeing that they understand the term “sensory friendly.” Respondents were asked if they had a general understanding of ways they could help someone with a sensory processing impairment at the YMCA, 55.6% strongly agreed while 44.4% agreed with this statement. The YMCA staff agreed (11%) or strongly agreed (89%) that the presentation was useful. The respondents rated the overall quality of the presentation as excellent (89%) or very good (11%).

In general, participants liked the interactive labs that took place throughout the lecture along with watching the videos. For example, one participant stated, “The examples/labs made it easier to understand how someone who is sensory impaired feels and what they go through.” Another participant stated, “(I liked) the activities that broke up the lecture and they gave me a better understanding of the concept.” When asked about ways to improve the presentation, the

participants did not give any recommendations and stated that the presentation was well done. For example, a participant stated, “Couldn’t change much, very good delivery and content.”

**Kiddie Kollege.** After the presentation, the 12 attendees completed a post-survey to provide feedback on the presentation (See Appendix D). All of the participants (100%) either agreed or strongly agreed with the following statements: “I understand what the term sensory friendly means; I understand what difficulties an individual with autism, sensory processing disorder, or ADHD may face; I have a general understanding of sensory strategies I can implement within the classroom.” A majority (66.7%) of participants strongly agreed or agreed (33%) that they understood the purpose of a sensory room. When asked if they found this presentation useful, 41.7% of respondents agreed while 58.3% strongly agreed. Overall, respondents rated the presentation good (16.7%), very good (58.3%), or excellent (25%).

When participants were asked what they liked about the presentation, a majority of people stated it was informative and that the classroom activity handout was helpful. One participant stated, “It was very informative, loved the visuals.” Another participant stated, “It was very concise and easy to understand. I also felt like I could ask questions.” When asked how the presentation could be improved, participants stated that it would have been helpful to bring in toys that stimulate the sensory system or complete a sensory activity. For example, one respondent stated, “It would be great to have some physical toys to touch, see, and play with.”

**St. Elizabeth School of Nursing.** A post-survey was administered to the seven students and one professor after the presentation (See Appendix E). A majority of participants (75%) strongly agreed while 25% agreed that they had a general understanding of ways to help an individual with a sensory processing impairment. When respondents were asked if the

presentation was useful, 75% of participants strongly agreed and 25% agreed. Respondents rated the presentation as very good (12.5%) or excellent (87.5%).

When asked about what the participants liked about the presentation, a majority of respondents liked the interactive labs, videos, and relating the information to the nursing field. One participant stated, “I liked how you included how it related to nursing and what we can do. I also loved the interactive activities that helped me stay engaged.” When asked about what could be improved with the presentation, participants stated that small group work could be beneficial as well as slowing down when talking about the information. One participant stated, “Slow down a little but it was great!”

### **YMCA Exercise Class Guide**

A copy of the YMCA Exercise Class Guide is available for all Franciscan Health therapists on the shared drive located on all Franciscan Health computers. Feedback regarding the guide was received after explaining the guide to four therapists in the Franciscan Health outpatient facility. All of the therapists agreed the guide would be helpful because they do not have the time to personally attend or observe the exercise classes and therefore cannot make recommendations as to what exercise class may be appropriate for a client. Thus, the Franciscan Health therapists found the guide helpful in recommending community involvement for a client post discharge from outpatient therapy.

### **Tours of Franciscan Health**

Feedback from the YMCA staff about the tour was gained by asking the question; “Did you find the tour useful?” All of the twelve YMCA staff who attended the tours stated the tour was useful. Some of the staff said that it was helpful to gain a better understanding of the Franciscan Health building and the services offered. A few of the staff mentioned that the tour

would also allow them to better answer questions that YMCA members ask regarding the services offered through Franciscan Health. Overall, the tours helped to establish a connection between the two organizations by introducing YMCA staff to members of the Franciscan Health team. It also provided the opportunity for the YMCA staff to ask questions regarding Franciscan Health.

### **Sensory Friendly Program Outline**

The Sensory Friendly Program Outline was explained to the YMCA wellness coach manager. A review of the outline was provided and questions were answered regarding the feasibility of a sensory friendly program at the Lafayette Family YMCA in the future. The YMCA wellness coach manager stated the outline was helpful and it would lay the foundation for a sensory friendly event in the future.

### **Project Modifications**

Based on feedback from the Kiddie Kollege presentation, it would be beneficial to have a lab portion alongside the presentation. The lab portion could consist of bringing in “sensory items” such as a weighted blanket, sensory bin, or a fidget cube. The School of Nursing presentation lasted two hours so it would be beneficial to modify the presentation to include multiple short breaks so the students remain engaged. The YMCA presentation received excellent feedback and attendees did not recommend any changes.

The YMCA offers new exercise classes on a regular basis. In the future, the new exercise classes will need to be added to the YMCA Exercise Program Guide. The guided tours of Franciscan Health went well and do not require any modifications. The Sensory Friendly Program Outline does not currently require any modifications but it can be modified in the future, depending on what sensory friendly event the Lafayette Family YMCA hosts.

### **Goal Attainment Scale**

A goal attainment scale was created during the beginning of the DCE project to measure the completion of projects (See Appendix G). The goal attainment scale included the same goals that were outlined within the memorandum of understanding. The memorandum of understanding is a document that was created and signed by the researcher, faculty advisor, and site supervisor stating the goals, objectives, and outline of the DCE project. The first goal regarding the tours of Franciscan Health was rated a +1 because the tours were given and good feedback was received from YMCA staff. The second goal concerning the sensory presentations was rated a +2 for much more than expected. The sensory presentations were given and a majority of presentations were rated excellent. Creating a sensory friendly protocol was the third goal and was rated a 0 for expected outcome. Unfortunately, due to time, the sensory friendly program could not be implemented. Lastly, the fourth goal regarding the YMCA exercise program guide was rated a 0 for expected outcome. For this goal, I was unable to provide direct education about the program guide to all therapists but my supervisors will provide the education a few weeks after the completion of the DCE project.

### **Quality Improvement**

Ongoing quality improvement will continue to occur after the completion of this DCE project. The St. Elizabeth School of Nursing presentation will continue to be presented to the nursing students, once during the fall and once during the winter semesters. An occupational therapist at Franciscan Health will lead the presentations for the nursing students and will continue to use the PowerPoint presentation and labs created during this DCE project. The Kiddie Kollege presentation and handout was e-mailed to the director of Kiddie Kollege so that the information can be shared with future staff. For the YMCA presentations, one of Franciscan

Health's supervisors attended the presentation. The supervisor can continue to give presentations in the future to other YMCA staff as needed. In addition, the YMCA staff who have already received the education on the sensory systems can discuss information learned with coworkers who did not have the chance to attend one of the presentations.

The YMCA exercise class guide was created on a Microsoft Word document, the classes are listed in alphabetical order, and changes can be easily made to the document. Thus, if there are any changes in exercise classes offered by the Lafayette Family YMCA, therapists can update and modify the already existing guide as needed. Lastly, the sensory friendly program outline will provide a guide for the Lafayette Family YMCA in creating their own sensory friendly event in the future. As a result of this DCE experience, the Franciscan Health staff have agreed to further collaborate with the YMCA staff to assist with the development and implementation of a sensory friendly event.

### **Dissemination**

This DCE student presented the project outcomes to Franciscan Health management team during a meeting where a brief presentation over the project outcomes was given. This allowed time for questions regarding the project and helped Franciscan Health management brainstorm ideas as to how the project could be expanded upon in the future. Unfortunately, I was unable to disseminate my project findings to the entire Franciscan Health therapy team due to a miscommunication in meeting time. However, my supervisors during the DCE project will be disseminating the information gathered during the project to all therapy employees a few weeks after the completion of this project.

All of the information collected over the length of this DCE project is on Franciscan Health's shared file drive. Examples of such information include the multiple PowerPoints, the

surveys distributed throughout the project, articles used while collecting research, the YMCA exercise class guide, information on how to conduct the tours of Franciscan Health, the sensory friendly program outline, and a document that provides a brief description of every task completed during the DCE project. All Franciscan Health employees or students have access to the shared file drive.

The presentations, YMCA program guide, and sensory friendly program outline were discussed in person and e-mailed to the Lafayette Family YMCA wellness coach manager. The YMCA presentation on the sensory systems and sensory processing was also e-mailed to the Fort Wayne YMCA director of adaptive services. The director of adaptive services stated that some of the information from the PowerPoint would be shared during YMCA staff training at the Fort Wayne YMCAs.

After the conclusion of this project, the goal is to disseminate the information learned to the Indiana occupational therapy association conference or submit to the sensory integration and processing special interest section (SIS).

### **Societal Needs**

There is an increasing need for program staff to be knowledgeable about working with persons who have diagnoses that involve sensory processing impairments (Ryan et al., 2014; Jull & Mirenda, 2016). This DCE student developed and implemented presentations regarding sensory processing to the staff at the Lafayette Family YMCA, Kiddie Kollege, and the St. Elizabeth School of Nursing. Providing education on the sensory systems allowed these individuals to feel more comfortable working with persons who have sensory processing impairments.

Parents who have a child with ASD express an enhanced sense of well-being when they attend sensory friendly events (Silverman & Tyszka, 2017). Based on this information, it can be assumed that most individuals who experience a sensory processing impairment may feel an enhanced sense of well-being while attending a sensory friendly event. This DCE student created a sensory friendly program outline for the Lafayette Family YMCA. Due to the Lafayette Family YMCA being a new facility and still organizing events/classes, the program could not be implemented during the 14-week placement. However, the outline provides a reference for the Lafayette Family YMCA so that a sensory friendly event can be created in the future. Additionally, this provides an opportunity for a future DCE student to continue with this project.

It is important for clients to maintain an active lifestyle post discharge in order to maintain overall health and wellness. The clients receive a three-month free membership to the YMCA after discharge from outpatient therapy, which helps promote overall health and wellness. There are a variety of classes the Lafayette Family YMCA offers with varying levels of difficulty. This DCE student created an exercise class guide that can help therapists refer their clients to the classes that will best meet the client's needs.

### **Staff Development**

Staff development took place in the variety of different ways. The presentations on the sensory systems and sensory processing at Kiddie Kollege and the YMCA allowed the staff from both organizations to learn more about an unfamiliar topic, relate it to their own field of work, and thus improve the services they provide to all people. The presentation for the St. Elizabeth School of Nursing allowed the students to learn more about an unfamiliar topic in hopes to impact their future practice. Staff development at Franciscan Health took place through interacting with therapists and managers on a weekly basis and explaining the purpose of the

DCE project. By explaining the purpose behind the DCE, the Franciscan Health staff brainstormed ideas as to how the project could expand in the future and lead to changes in service delivery. For example, by researching and explaining the purpose of the DCE, this lead Franciscan Health management team to contemplate becoming an autism certified center. After consideration, becoming an autism certified center is now a part of the hospitals five-year plan.

### **Overall Learning**

#### **Communication**

Throughout the entire DCE project, it was important to express myself through written, oral, and nonverbal communication with clients, staff, healthcare providers, and community members. Written communication occurred daily through e-mails. E-mails were sent to community organizations, supervisors, Franciscan Health/YMCA staff, and other public entities. During written communication, it was important to be clear and concise. With written communication, it is imperative that whoever is receiving the message interprets the meaning in the way that it was intended. It was important to stay up to date on written e-mail correspondence so that the DCE project could progress.

Oral communication was one of the most important pieces of communication throughout the DCE process. On a daily basis, I interacted with YMCA staff and members as well as Franciscan Health staff and clients. Oral communication was vital during meetings and presentations. Using oral communication, I was able to effectively explain the purpose of my DCE project to others including the YMCA staff, the Franciscan Health staff, friends, or family. When talking directly with others, it was important to be aware of non-verbal communication. I used non-verbal communication throughout my DCE project so that I could accurately judge if someone understood the information I was providing. I also had to be aware of my own facial

expressions during presentations, meetings, observing treatment sessions, and when communicating with staff.

Some projects required the use of all three forms of communication. For example, during the presentations, written, oral, and nonverbal communication were all extremely important. The written information on the PowerPoint slides had to be clear and concise. Oral communication was important when interacting with the persons who attended the presentations and while answering questions. Lastly, nonverbal communication took place by both noticing the facial expressions of the persons receiving the presentation as well as my own facial expressions. I was able to adjust my presentation based on the body language and facial expressions of the individuals in the audience.

### **Leadership**

Leadership skills such as accountability, communication, flexibility, and commitment were improved throughout the entirety of this project. From the beginning of the DCE, I had to hold myself accountable and ensure that I finish projects in a timely manner. A part of this accountability was ensuring that I communicated with supervisors and management staff. Communication with Franciscan Health and YMCA staff occurred on a daily basis. Whether the communication was in person, during presentations, or via e-mail, it was important to effectively express my thoughts and ideas.

It was imperative to remain flexible in order to meet the needs of both Franciscan Health and the Lafayette Family YMCA. When delivering the presentations and guiding tours, I had to remain flexible with both dates and times. It was also important to remain flexible when attending the exercise programs at the YMCA due to the variety of times the classes take place.

It was initially difficult to set up meetings with the YMCA staff, so I had to remain flexible and patient during the first few weeks. Lastly, I was committed to this project. The entire project is something that I am passionate about. I enjoyed discussing and sharing information regarding the sensory systems and sensory processing with individuals within the community. I have improved leadership skills greatly since starting the DCE project. Overall, the entirety of the DCE project provided opportunities to develop as a leader, which will be extremely helpful in the future as an occupational therapist.

### **Advocacy**

Advocating for occupational therapy occurred more often than I thought it would have throughout this project. I realized that after explaining the purpose of my DCE to whomever, not many people understood what occupational therapists do on a daily basis. With the YMCA staff, nursing students, and Kiddie Kollege employees, I had to explain the importance of occupational therapy. Very few people knew that occupational therapists work with individuals who experience sensory processing impairments. Not only did I advocate for occupational therapy within my DCE site, but I also advocated for occupational therapy when explaining my project to friends and family. It is important to advocate for your profession and I feel I did this on a daily basis throughout the entirety of my project. I am happy that I had the ability to expand people's knowledge of occupational therapy and provide them the opportunity to learn more about this profession.

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## Appendix A

## Pre-Survey for YMCA Staff

1) Please rate your response to the following statement:

I understand what the term “sensory friendly” means:

- 1 – Strongly Disagree
- 2 – Disagree
- 3 – Neutral
- 4 – Agree
- 5 – Strongly Agree

2) In your own words, how would you describe the term, sensory friendly?

3) Have you worked with an individual who displayed sensitivity to noise, light, sound, touch, or smell?

4) Do you know what a sensory room is?

5) Have you received any educational training on diagnoses that can involve sensory symptoms such as autism, sensory processing disorders, or concussions?

6) Would attending an educational session at the YMCA about diagnoses involving sensory symptoms be helpful?

7) Are there any specific diagnoses you would like to learn more information on?

8) Would you attend a guided tour of the Franciscan Health building?

9) Please list questions or comments below

Appendix B

Post-Survey for YMCA Staff

**I understand what the term “sensory friendly” means:**

- 1 – Strongly Disagree
- 2 – Disagree
- 3 – Neutral
- 4 – Agree
- 5 – Strongly Agree

**I have a general understanding of ways I can help an individual at the YMCA with a sensory processing impairment:**

- 1 – Strongly Disagree
- 2 – Disagree
- 3 – Neutral
- 4 – Agree
- 5 – Strongly Agree

**I found this presentation useful:**

- 1 – Strongly Disagree
- 2 – Disagree
- 3 – Neutral
- 4 – Agree
- 5 – Strongly Agree

**How would you rate the presentation?**

- 1 – Poor
- 2 – Fair
- 3 – Good
- 4 – Very good
- 5 – Excellent

What did you like about the presentation?

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What improvements could be made to this presentation?

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Appendix C

Handout for Kiddie Kollege

**Tactile Activities**

Play-doh, Sand, rice, water, beans, Fidget toys, Hugs, Finger painting, Shaving cream, Vibrating toys, Water Beads, Tactile Discs

**Vestibular Activities**

Swinging, Somersault, Log Rolling, Spinning, Bouncing on a ball, Playground slides, Jump Rope, Jumping Jacks, Sit-ups, Hopscotch or balance games

**Proprioceptive Activities**

Wheelbarrow Walk, Animal Walks (Crab, Bear), Chair or Wall Push-ups, Pushing/Pulling Activities, Playing tug-of-war, Riding a Bike, Popping Bubble Wrap

**Oral Activities**

Blowing bubbles, Drinking through a straw, Whistles, Exploring different foods/textures

**Olfactory Activities**

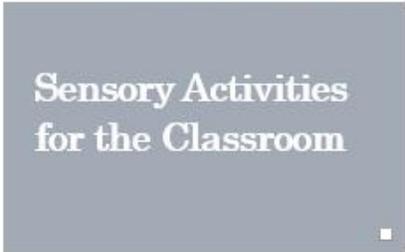
Scented Candles, Lavender water beads, scented play-doh such as candy cane

**Visual Activities**

I-spy, Rainbow sensory bottles, Color matching activities

**Auditory Activities**

Using bells, playing nature sounds, make a sensory shaker with beads inside, singing, humming



## Appendix D

## Post-Survey for Kiddie Kollege

1) Please rate your response to the following statements:

I understand what the term “sensory friendly” means:

- 1 – Strongly Disagree
- 2 – Disagree
- 3 – Neutral
- 4 – Agree
- 5 – Strongly Agree

I understand what sensory processing difficulties an individual with autism spectrum disorder may face:

- 1 – Strongly Disagree
- 2 – Disagree
- 3 – Neutral
- 4 – Agree
- 5 – Strongly Agree

I understand what sensory processing difficulties an individual with sensory processing disorder may face:

- 1 – Strongly Disagree
- 2 – Disagree
- 3 – Neutral
- 4 – Agree
- 5 – Strongly Agree

I understand what sensory processing difficulties an individual with ADHD may face:

- 1 – Strongly Disagree
- 2 – Disagree
- 3 – Neutral
- 4 – Agree
- 5 – Strongly Agree

I have a general understanding of sensory activities I can implement within the classroom:

- 1 – Strongly Disagree
- 2 – Disagree
- 3 – Neutral
- 4 – Agree
- 5 – Strongly Agree

I have a general understanding of what a sensory room is:

- 1 – Strongly Disagree
- 2 – Disagree
- 3 – Neutral
- 4 – Agree
- 5 – Strongly Agree

I found this presentation useful:

- 1 – Strongly Disagree
- 2 – Disagree
- 3 – Neutral
- 4 – Agree
- 5 – Strongly Agree

How would you rate the presentation?

- 1 – Poor
- 2 – Fair
- 3 – Good
- 4 – Very good
- 5 – Excellent

What did you like about the presentation?

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What improvements could be made to this presentation?

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Appendix E

Post-Survey for St. Elizabeth School of Nursing

Please circle your response to the following questions:

I have a general understanding of ways I can help an individual with a sensory processing impairment:

- 1 – Strongly Disagree
- 2 – Disagree
- 3 – Neutral
- 4 – Agree
- 5 – Strongly Agree

I found this presentation useful:

- 1 – Strongly Disagree
- 2 – Disagree
- 3 – Neutral
- 4 – Agree
- 5 – Strongly Agree

How would you rate the presentation?

- 1 – Poor
- 2 – Fair
- 3 – Good
- 4 – Very good
- 5 – Excellent

What did you like about the presentation?

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What improvements could be made to this presentation?

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## Appendix F

## Sensory Friendly Summer Bash

- Pool time
  - Lifeguards do not use whistles (unless emergency)
  - Don't turn on play features to ensure appropriate environment for all
  - Do not play music
  - Offer goggles (if possible) for children who may not like water in eyes
  - Turn lights down
  - Provide families the option of allowing them to bring small pool toys
  - Ensure no water aerobics programs will take place and limit the number of adults who may come in to lap swim
- Arts & Crafts
  - Could take place in multi-generational room
  - Consider this the quiet/calming area that has less sensory stimulation; dim lights
  - Craft Ideas
    - Tabletop Sensory Box
      - A bin filled with water → include toys such as boats, fish, cups
      - A bin filled with sand → hide objects such as starfish, seashells
    - Finger-painting station → paper & finger-paints (smocks, newspaper, stamps, and paintbrushes)
    - Have puzzles, books, board games, blankets, pillows
- Open Gym
  - Louder and more sensory stimulating environment
  - Offer basketball in one area
  - Game of twister
  - Parachute Game
  - Area for children to run around
- Other important notes
  - Do not use PA system during this time
  - Limit the number of participants (5 families per area)
  - Have extra staff on hand to help with events

Appendix G  
Goal Attainment Scale

GOAL ATTAINMENT SCALE – MADDY MAHONEY	Goal #1: Tours for YMCA Staff	Goal #2: Presentations on the sensory systems	Goal #3: Create protocol for sensory friendly programs for YMCA	Goal #4: Create YMCA exercise program guide for Franciscan Health therapists
-2 Much Less Than Expected	Do not give tours or provide education	Do not provide presentations	Do not create protocol	Do not create program guide
-1 Somewhat Less Than Expected	Provide tours & education  Receive negative feedback from YMCA staff regarding tours	Provide presentations & rated poorly on post-survey	Create protocol but do not educate others on purpose or importance	Create program guide but only attend 50% of the YMCA exercise classes in person
0 Expected Outcome	Provide tours & education	Provide presentations & rated good on post-survey	Create protocol & explain purpose/importance of future implementation	Create program guide and attend 90% of the YMCA exercise classes in person
+1 Somewhat More Than Expected	Provide tours & education  Receive good feedback from YMCA staff regarding tours	Provide presentations & rated very good on post-surveys	Beginning stages of protocol implementation	Create program guide and attend 90% of the YMCA exercise classes in person  Provide education to therapists on program guide
+2 Much More Than Expected	Provide tours & education  Receive excellent feedback from YMCA staff regarding tours	Provide presentations & rated excellent on post-surveys	Implement entire protocol	Create program guide and attend 100% of the YMCA exercise classes in person  Provide education to therapists on program guide