UNIVERSITY of INDIANAPOLIS.

School of Occupational Therapy

Development of Structured Large Motor and Balance Programs to Improve Occupational Performance for Women and Children

Elizabeth Harris

May, 2022



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.

Under the direction of the faculty capstone advisor:

Kristina Watkins, OTD, MOT, OTR

A Capstone Project Entitled

Development of Structured Large Motor and Balance Programs to Improve Occupational Performance for Women and Children

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

Elizabeth Harris

OTS

Approved by:

Faculty Capstone Advisor

Doctoral Capstone Coordinator

Accepted on this date by the Chair of the School of Occupational Therapy:

Chair, School of Occupational Therapy

Date

2

Date

Date

Abstract

This study exists to create a structured large motor program for children and a balance program for the women at Heart Change Ministries to improve occupational performance. Child development education was provided to 15 staff members via infographics. A pre and post-test perceived knowledge survey was administered before and after education. Results indicated a 35% increase in perceived knowledge. Six children aged three to five were evaluated using the Single Leg Balance Test. Three women were assessed with the Static Balance Test. Both of these assessments were completed as pre and post-tests. The children completed the exercise program one day per week and the women completed the balance program two days per week, each for eight weeks. All the children and women showed improvement in balance scores after program implementation. This data may provide a reference for incorporating similar programs with this population to improve occupational performance in the future.

Introduction

Heart Change is a non-profit Christian organization that desires to come alongside women, with or without children, in discipleship to create permanent change in their lives. Most of the women have experienced homelessness, abused substances, currently live in unstable/unsafe environments, and have been physically/emotionally abused by a partner or as children. The mission of Heart Change Ministries is "...to serve marginalized women in Indianapolis with the gospel of grace, equipping them to live as God intended; as women, mothers, and members of their communities" (Heart Change Ministries, 2021, "Our Mission" section). While the women are being discipled, Heart Change provides a developmental preschool for their children.

After completing a needs assessment with Heart Change, it became clear that the children enrolled displayed various developmental delays due to their circumstances. The Doctoral Capstone Experience (DCE) project consisted of creating a structured large motor program for the children. Teachers and volunteers were trained and educated on how to sustain the program by implementing it on their own. Another aspect of the project focused on improving the women's balance skills. Heart Change staff members received education through infographics on Occupational Therapy and developmental principles to implement in the classroom. The purpose of the program and all the interventions was to improve the occupational performance and wellness of the women and children at Heart Change so they can thrive and be the amazing women and children that God has created them to be. Throughout this paper the reader will learn about the needs, values, and mission of Heart Change Ministries; understand the Occupational Therapy theory and model that guided and justified the DCE project; and explore the project design, implementation, and outcomes.

Background

As previously noted, Heart Change provides services to women in crisis which often includes homeless populations. In 2019, Indiana had 544 family households that were homeless (USICH, 2019). One in thirty children living in the United States experiences homelessness every year (American Institutes of Research, 2014). Children living in poverty are at risk for cognitive, social, physical, and developmental delays as they are less frequently stimulated in these areas through their parents (Cates et al., 2016). While the mothers are focused on finding ways to provide for their family, they neglect to stimulate their children in a way that would promote development. The staff at Heart Change had concerns that the children they serve demonstrated various developmental delays. Researchers have found poor developmental outcomes in children growing up in poverty and hypothesize that as children grow older and are more exposed to the harsh circumstances of poverty, the more developmental delays arise (Coll et al., 1998). In response to this, the researcher completed a developmental screening on each of the children ranging in age from one to three to report any suspicion of developmental delays.

Schultz and Tyminski (2018) reported children that experience homelessness have decreased opportunities to participate in developmentally appropriate activities, such as play, which can negatively impact the child's cognitive, social-emotional, and physical development. As indicated in the needs assessment, this finding was also true for the children at Heart Change. There was a need for a structured large motor time, including improvement in core strength and balance. Ruiz-Esteban et al. (2020) implemented a structured large gross motor exercise program for a portion of preschoolers while a comparison group participated in free play. In the study, the structured large gross motor exercise group presented with significantly higher arm and leg coordination values when compared with the free playgroup (Ruiz-Estaban, 2020). Researchers

Development of Structured Large Motor and Balance Programs to Improve Occupational Performance for Women and Children

found that, "...structured physical activity education is better educational methodology than free play to achieve adequate motor development in preschool children" (Ruiz-Estaban, p.1, 2020). At the beginning of the project, the thirty minutes of large motor time was spent in free play. The goal of the project was to engage the children aged three to five in a structured large motor exercise session for a portion of their large motor time. The results and methods of this intervention were different as the children in the Ruiz-Estaban study were all typically developing, and the children at Heart Change demonstrated multiple areas of developmental delay.

Through observation and the needs assessment, it was found that some of the children at Heart Change demonstrated a lack of body awareness and decreased balance. Chang et al. (2020) researched a 6-week program for a physical warm-up and balance exercises with school-aged children. The researchers found that dynamic whole-body movement intervention produced improved balance results. However, the main finding from the study, "…indicated that children can increase their core strength and endurance over time, enabling them to maintain postural control, reduce inefficiency in their movement patterns, and improve balance stabilization" (Chang et al., p.8, 2020). This information motivated the researcher to incorporate core strengthening exercises into the structured large motor program.

The Alternate Path (AP) course was created a couple years ago when three of the women were not able to cognitively participate in the courses because they could not read, sustain attention, or demonstrate appropriate behavior in class. During evaluation a concern for the women's balance in the AP class surfaced. After completing the needs assessment, it was found that many of the women are unstable on their feet and have a fear of falling. In response to this the researcher completed a balance assessment with the women, introduced a balance and

Development of Structured Large Motor and Balance Programs to Improve Occupational Performance for Women and Children

stretching program, and reassessed at the end of the semester to note their progress. Hinsey et al. (2016) completed an 8-week program that merged Yoga and Occupational Therapy (OT) intervention with patients that have experienced falls or have a fear of falling. While the size of participants was small, results indicated that merging yoga with OT balance interventions improved balance, confidence, emotional, and cognitive variables (Hinsey et al., 2016).

Another portion of this project included educating the classroom teachers and volunteers about various OT domains and providing a background on child development principles. This would ensure that the teachers would see the benefit of the project interventions and would continue to implement them after the project ceased. To assess their perceived knowledge of the OT principles, a pre and post programming Likert scale survey was created. This survey was modelled after Heward et al. (2021) who reported on their project that provided the intervention of education to caregivers of patients with dementia. These researchers conducted a pre and post programming survey where they asked their participants to rate their knowledge and comfortability before and after intervention (Heward et al., 2021). The teachers and volunteers participated in the survey at the beginning of the semester to assess their perceived knowledge of information before providing education and took the same survey at the end of the semester after education, with hopes of their perceived knowledge increasing. Throughout the semester, infographics were created by the student with information and potential classroom activities that would promote development in each of the OT principles.

The program implementation for both the women and children at this site included education to the teachers and volunteers so they can implement the simple interventions long term to continue promoting development for all. All of these areas of program implementation

7

were identified by the stakeholders as a need for improvement for the children and women at Heart Change.

Model and Theory

The Person Environment Occupation Performance (PEOP) model guided and justified the work of this Doctoral Capstone Experience. The first component of this model focuses on the person, and this would be a crucial aspect for Heart Change as they require the women to devote themselves to a spiritual journey. The second component is the environment which includes the individual's extrinsic factors and impacts most of the women and children at Heart Change as most come from abusive homes, experience homelessness, live in unstable environments, and experience poor socialization (Cole & Tufano, 2008). The third component is occupation, and for the project this will include the women learning to work, balance, and learn while the children are learning to play and promote their gross motor development. The fourth component is performance, which is the individual participating in the task or occupation (Cole & Tufano, 2008). The women practiced working and improving balance performance while the children completed gross motor exercises to improve their performance in play and learning. Both groups will attempt to create healthy relationships with others. Finally, all components of the model are intersected and produce the individual's occupational performance (Cole & Tufano, 2008). The goal for the project was working towards restoring occupational balance, or creating successful occupational performance, to the women and children at Heart Change through the programs that were implemented.

The theory guided this project was Laslett's Third Age Theory, which explains the four ages of life that each individual goes through. The first age appled to the children at Heart Change as it is the age for dependence and education (Cole & Tufano, 2008). The second age

Development of Structured Large Motor and Balance Programs to Improve Occupational Performance for Women and Children

applied to the women at Heart Change as it is the age for independence and maturity while attempting to find their place in the working world to provide for their family (Cole & Tufano, 2008). The third applied to some of the women as they experience disability in their everyday lives in terms of decreased literacy and balance, while attempting to find self-fulfillment in their lives (Cole & Tufano, 2008). The fourth age represents the end of life and returning to a state of dependency (Cole & Tufano, 2008). While this does not apply directly to the women, they could be caring for a loved one at this age or begin to prepare for these ages. When using this theory to guide intervention, it was important to consider the women's first age and the impact it had on their lives considering a majority of women come from abusive homes. These experiences in their first age greatly influence the way they behave and develop now in the second age.

Project

After completing the needs assessment, interviewing stakeholders, and observing the programming of Heart Change, attainable goals were created to promote the occupational engagement of the women and children. The outcome measure chosen to assess the children's large motor and balance skills was the Single Leg Stance balance assessment. The children completed the assessment before and after the structured large motor program was implemented to test the effectiveness of the program. This outcome measure compares a given child's performance to the performance of other children the same age to get norm values. This measure was necessary for the project to identify potential developmental delays in children so they could receive attention or be referred to therapy services. The outcome measure chosen to assess the balance of the women in the AP class was the Static Balance Test. This outcome measure was chosen to ensure participation due to the simple instructions that the women in this course could

Development of Structured Large Motor and Balance Programs to Improve Occupational 10 Performance for Women and Children

easily understand. The women completed the test before and after the balance program implementation to analyze their progress and test the effectiveness of the program.

To assess the perceived knowledge of the classroom teachers and volunteers on OT and development principles, the researcher created a pre and post-programming survey that consisted of a 4-point Likert scale and was modelled after Heward et al. (2021). The pre-test was completed by 15 of the teachers and volunteers on Google Forms the 2nd week of the project and the post test was completed during the 13th week after education had been provided.

After gaining evaluation data and information from the outcome measurements, extensive research was completed to ensure all OT intervention was evidence-based and client centered. A structured large motor program was created for the children aged three to five to complete before going to the large motor room and was modelled after Chang et al. (2020). A similar program was created for the children aged 1-2; however, this age did not tolerate these sessions well due to decreased attention and maturity. Client-centered intervention was implemented to promote development with these children throughout the project. A balance program was created to challenge the women in a safe manner and to create a routine of exercise and moving their bodies. Many of the women could not read, so a handout with visuals was created as a home exercise program for the women to take home and complete with safety precautions in place. Various balance exercises were implemented with the women in the AP class throughout the semester to boost confidence and improve balance in their everyday lives. This area of the project was the most challenging as the women were skeptical of the exercises, and one of the women was very fearful of falling. However, after building a rapport with the women, they were more willing to participate in the activities and showed great improvement in their balance skills and confidence.

Educational infographics were created and provided to the teachers and volunteers of the children's classrooms to improve their confidence and understanding of the different OT and development principles. The infographics also included potential activities the teachers could implement to promote development within the classroom. The participants greatly enjoyed learning about these different topics and implemented some the suggested activities throughout the duration of the project.

Project Outcomes

Six of the children aged three to five completed the Single Leg Balance test prior to completing the structured large motor program. Each child was required to balance themselves on their right foot and then the left foot for as long as they could, stopping the test at 10 seconds. The children participated in the program one day per week for eight weeks. The children completed the Single Leg Balance test again after program implementation. Three of the women completed the Static Balance Test before and after the balance and stretching program was implemented. As shown in Table 2, the balance stance difficulty progresses as the test continues. The women are asked to hold each stance for as long as they can, stopping each stance at 10 seconds. The women participated in the program two days per week for eight weeks. Fifteen of the teachers and volunteers completed the pre and post programming survey based on their perceived knowledge of OT and development principles before and after education was provided. The survey was a Likert scale of options ranging from "no knowledge (1)" to "very well informed (4)." Educational infographics were created by student informing staff on development and examples of activities that could be implemented within the classrooms to promote development.

Table 1 includes norm scores for each age of the child on the Single Leg Balance Test. Four of the children demonstrated a risk for developmental delay prior to program implementation based on the normal score for their age. After program implementation, none of the children demonstrated a risk for developmental delay. All of the children demonstrated varying amounts of positive % change as shown in Table 1. The women in the Alternate Path course demonstrated improvements in each category of the Static Balance test post test scores compared with the pre-test data. All the women demonstrated varying amounts of positive % change as seen in Table 2. The teachers and volunteers' results for the pre-programming survey indicated a total of 60% perceived knowledge of the OT principles and developmental topics before education, as indicated in Table 3. After this set of participants received education on OT principles through the use of infographics, the post programming survey results increased to a total of 95% perceived knowledge. All topics yielded an increase of median perceived knowledge score at the pre-programming survey to the median of the post programming survey after the teachers and volunteers received education on OT principles through use of original infographics. There was a total 35% increase in perceived knowledge noted in the post test scores compared with the pre-test scores as seen in Table 3.

Table 1

Age	R Pre- Score (sec)	L Pre- Score (sec)	Norm* (sec)	R Post Score (sec)	L Post Score (sec)	% Change R	% Change L
3y, 6mo	3	5	2-3	5	8	+66%	+60%

Single Leg Balance Test Scores for Children Aged 3-5

Development of Structured Large Motor and Balance Programs to Improve Occupational 13 Performance for Women and Children

3y, 9mo	3	3	2-5	3	6	0%	+100%
4y, 1mo	6	3	4-8*	6	5	0%	+66%
4y, 2mo	2	2	4-8*	10	5	+300%	+150%
4y, 3mo	2	4	4-8*	6	5	+400%	+150%
4 y, 4mo	4	4	4-8	8	10	+100%	+150%
5y, 3mo	6	8	10*	8	8	+25%	0%

Note. * Indicates a score that does not meet the normal development score for children at the specific age, indicating a developmental delay.

Table 2

Static Balance Test Scores for Women in AP Class

Test	Client 1	Client 1	Client 2	Client 2	Client 3	Client 3
	Pre-Test	Post Test	Pre-Test	Post Test	Pre-Test	Post Test
Description	(sec)	(sec)	(sec)	(sec)	(sec)	(sec)
Stand with						
Feet Side-	10	10	10	10	10	10
By-Side						

Place Instep						
of Foot to						
Touch Big	1	4	10	10	10	10
Toe of Other						
Foot						
Tandem	1	2	6	10	4	10
Stand	-	_	Ũ	10		10
Stand on 1	1	1	7	10	10	10
Foot	1	1	1	10	10	10
Total %		30%		33%		25%
Change		5070		5570		2370

Table 3

Pre and Post Programming Survey Data on Perceived Knowledge

OT Principle/Topic	Pre-programming	Post programming	% Change in
OT Thispe, Topic	Average	Average	Perceived Knowledge
Occupational Therapy	2	3	+50%
Developmental	2	3	+50%
Milestones	2		13070
Crossing Midline	2	3	+50%
Bilateral Integration	1	3	+200%
Proprioception	2	3	+50%
Vestibular System	2	3	+50%
Heavy Work	1	3	+200%

Development of Structured Large Motor and Balance Programs to Improve Occupational 15 Performance for Women and Children

Executive Functioning	2	3	+50%
Sensory System	2	3	+50%
Upper Extremity	2	3	+50%
Strengthening			
Fine Motor	3	4	+33%
Coordination			
Gross Motor	3	4	+33%
Coordination			
Total % Perceived	60%	95%	+35%
Knowledge Score			

Summary

In summary, the children in this population are prone to developmental delay due to their circumstances of homelessness, lack of developmentally stimulating opportunities, and poverty. After evaluation of the children was completed, it was found that four out of seven children demonstrated a developmental delay in their balance. To address this need, a structured large motor exercise program was created that challenged balance and core strength. After implementation, the same evaluation was completed and none of the children demonstrated a developmental delay and all of their scores improved by varying amounts. Women in the AP course demonstrated poor balance and confidence at the start of the project. A balance and stretching exercise program was created and given to the women to take home to practice. After implementation of this program two days per week, all of the women's scores improved by varying amounts, along with their confidence and desire to improve their balance. Lastly, the

teachers and volunteers had a desire to learn more about Occupational Therapy and child development principles to best serve the children enrolled in Heart Change. At the beginning of the project, teachers and volunteers completed a pre-programming Likert scale perceived knowledge survey on various OT and development topics. Infographics were created and distributed by the student throughout the semester, and when the same teachers and volunteers took the post-programming survey, all of their perceived knowledge improved by varying amounts.

Conclusion

An eight-week structured large motor exercise program improved the balance and core strength of the children that participated in the program. These children enjoyed and welcomed the challenge to move their bodies in ways they never have before. They were overjoyed to find their scores had improved since the beginning of the program. An eight-week balance and stretching program improved the balance and confidence of the women that participated. After the initial hardship of getting the women to buy-in to the program, they grew fond of working on their bodies and even practicing the programs in their own homes. The improved results instilled confidence in the women that was positive for their mental health and will hopefully improve their occupational wellness. It has been communicated to Heart Change that these programs should continue with the women and children to promote improvement. Training has been completed with the teachers and staff to do so.

The classroom teachers and volunteers interacted well with the infographics that were provided, such as asking questions and implementing some of the activities within the classroom. Their perceived knowledge improved by the end of the project and they were thrilled to have resources on child development. Dissemination was completed with the site, which consisted of

Development of Structured Large Motor and Balance Programs to Improve Occupational 17 Performance for Women and Children

sharing results, observations, resources, and suggestions for specific women and children in the future. Heart Change does not currently employ an Occupational Therapist, so the site benefitted from a profession representative with new ideas and fresh eyes to each individual and situation from a developmental and occupational frame of reference.

The value of the effect size in the study indicates that data should be taken with caution due to the small sample sizes. Program implementation and data gathering should be taken with caution due to absences throughout the semester and inconsistent schedules for each of the women and children due to the nature setting. Behaviors and setting specific complications should require caution with data as well as there are many underlying factors that could cause poor scores. Future research should investigate long-term effects of these programs on a larger population. Occupational Therapy has a place within the homeless population and should be further investigated in the future.

References

American Institutes for Research. (2014). America's youngest outcasts: A report card on child homelessness. Retrieved from https://www.air.org/sites/default/ files/downloads/report/Americas-Youngest-Outcasts-Child-Homeless- ness-Nov2014.pdf

Cates, C. B., Weisleder, A., & Mendelsohn, A. L. (2016). Mitigating the Effects of Family
Poverty on Early Child Development through Parenting Interventions in Primary Care.
Academic Pediatrics, 16(3 Suppl), S112–S120.

https://doi.org/10.1016/j.acap.2015.12.015

Chang, N.-J., Tsai, I.-H., Lee, C.-L., & Liang, C.-H. (2020). Effect of a Six-Week Core
Conditioning as a Warm-Up Exercise in Physical Education Classes on Physical Fitness,
Movement Capability, and Balance in School-Aged Children. *International*

Journal of Environmental Research and Public Health, 17(15).

https://doi.org/10.3390/ijerph17155517

- Cole, M. & Tufano, R. (2008). Applied theories in occupational therapy: A practical approach. Thorofare, NJ: SLACK Incorporated.
- Coll, C. G., Buckner, J. C., Brooks, M. G., Weinreb, L. F., & Bassuk, E. L. (1998). The Developmental Status and Adaptive Behavior of Homeless and Low-Income Housed Infants and Toddlers. *American Journal of Public Health*, 88(9), 1371–1374. https://doi.org/10.2105/AJPH.88.9.1371

Heart Change Ministries. (2021). *Discipleship for women and their children*. http://www.heartchangeindy.org

Heward, M., Board, M., Spriggs, A., Emerson, L., & Murphy, J. (2021). Impact of "DEALTS2" education intervention on trainer dementia knowledge and confidence to utilise

innovative training approaches: A national pre-test – post-test survey. *Nurse Education Today*, 97, N.PAG. https://doi.org/10.1016/j.nedt.2020.104694

Hinsey, K., Bolster, R., Willis, L., Schmid, A., Van Puymbroeck, M., Tracy, B., & Portz, J. (2016). Merging yoga and occupational therapy to improve balance and fall risk factor management: A pilot study. *American Journal of Occupational Therapy*, 70(1). https://doi.org/10.5014/ajot.2016.70S1-RP103F

- Ruiz-Esteban, C., Terry Andrés, J., Méndez, I., & Morales, Á. (2020). Analysis of Motor Intervention Program on the Development of Gross Motor Skills in Preschoolers. *International Journal of Environmental Research and Public Health*, 17(13). https://doi.org/10.3390/ijerph17134891
- Schultz, W., & Tyminski, Q. (2018). Community-built occupational therapy services for those who are homeless. *American Occupational Therapy Association*. CE-1-CE9.
- United States Interagency Council on Homelessness. (2019). *Indiana Homelessness Statistics*. USICH. <u>https://www.usich.gov/homelessness-statistics/in/</u>

Appendix

Doctoral Capstone Experience Weekly Planning Guide

Week	DCE Stage (orientation, screening/evalu ation, implementation, discontinuation, dissemination)	Weekly Goal	Objectives	Tasks	Date comp lete
1	Orientation	1. Complete orientation by the end of week 1	Meet with site mentor, classroom teachers, other site personnel,	Set up meetings with key personnel Update goals on	1/10 1/13
			and volunteers to introduce myself and educate them on why I am here/what I will be doing for the 14 weeks.	MOU Meet with site mentor and faculty mentor to go over goals	1/14
			Document supervision plan and update MOU with site mentor	Ensure that all paperwork and training for orientation is complete	1/13
	Screening Evaluation	2. Complete Needs Assessment by the end of week 1	Understand the work environment, where to park, dress code, and	Determine who to meet with and what questions to ask	1/10
			complete training. Finalize questions for the needs assessment	Talk to the teachers about their needs, the children in their classroom, and what would be most beneficial	1/13
2	Screening/Eval uation	1. Prepare to administer screening tool to the children	Study the Denver 2 & Single Leg Balance test	Figure out how to score the Denver 2 & Single leg balance test	1/17
			Research and observe the site to find out what	Gather supplies at the site for the Denver 2	1/19

Development of Structured Large Motor and Balance Programs to Improve Occupational 22 Performance for Women and Children

		2.	Find 12	topics would be		
		2.	education	most beneficial	Calculate	1/18
			topics	for the teachers	chronological	
				and volunteers in	ages for the	
				each of the	children that I am	
				classrooms	completing the	
					Denver 2 with	
		3.	Make 1	Finalize and		1/10
			educational sheet for	submit MOU	Create and send educational sheet	1/18
			newsletter	with signatures	for newsletter to	
			on crossing		Abby by Friday	
			midline		ribby by Filday	
				Research and	Meet with site	1/18
				observe vision	mentor to discuss	
				assessments to	progress	
				evaluate the		
				women in the AP	Submit MOU	1/17
				class		
		4.	Outcome	Research how to	Create outcome	1/21
		т.	Measure	create an	measure	1/21
			1110000010	outcome measure		
					Create list of	1/17
					topics for	
					newsletter	
					Find vision	1/18
					assessments	1,10
3	Screening/Eval	1.	Screen the	Start screening in	Interpret results	1/27
	uation		children	the 1-2	of the Denver 2	
			ages 1-2	classroom with	screening	
			using the	the Denver 2		
			Denver 2			
		2.	Assess the	Assess women	Interpret whether	1/27
		2.	women in	with vision	the difficulty	
			the AP	assessment tool	reading is due to	
			course for	in the AP class	vision, cognition,	
			vision and		or literacy.	
			literacy			

Development of Structured Large Motor and Balance Programs to Improve Occupational 23 Performance for Women and Children

		3.	Assess ergonomics of women while soap making	Observe moms while soap making	Start to research ergonomic interventions for the moms. Create and send	1/25
		4.	Make 1 newsletter on Bilateral Integration		educational sheet for newsletter to Abby by Friday	1723
			integration		Meet with site mentor to discuss progress	1/28 1/25
					Send outcome measure to teachers/voluntee rs	
4	Screening/Eval uation	1.	Evaluate the balance of the women in	Research and utilize assessment for balance that is	Complete assessment and interpret results	1/31
			the AP class	appropriate	Research balance interventions that are appropriate	2/2
		2.	Evaluate children in the 3-5 classroom on the Single Leg Balance Test		Evaluate 3-5 classroom	1/31
	Implementation	3.	Create educational binder for soap making	Research ergonomics for soap making body safety	Start creating ergonomic resources	2/3
					Create and send educational sheet	2/4

Development of Structured Large Motor and Balance Programs to Improve Occupational 24 Performance for Women and Children

		4.	Make 1 Newsletter on Propriocept ion	Research large motor interventions and milestones	for newsletter to Abby by Friday Meet with site mentor to discuss progress	2/4
		5.	Continue Research on large gross motor program			
5	Implementation	1.		Research large gross motor interventions that are appropriate for each child	Work with each child and the classes as a whole during large gross motor time	2/9
		2.	Continue creating educational binder for soap making	Research ergonomics for soap making body safety	Continue creating ergonomic binder	2/8
		3.	Start creating vision resources for teacher	Research vision adaptive tools for the women	Start creating resource for teachers on vision adaptive tools	2/9
		4.	Make 1 Newsletter on Vestibular Input		Create and send educational sheet for newsletter to Abby by Friday	2/10
					Meet with site mentor to discuss progress	2/11
6	Implementation	1.	Research handwritin	Research handwriting	Work with each child and the	2/14

			g interventio ns to implement with the children	interventions that are appropriate for each child	classes as a whole during arts and craft time	
		2.	Finish vision resources for teachers	Continue to research vision adaptive tools	Set up a time to train the AP class teachers and educate them on vision adaptive tools	2/14
		3.	Provide teacher vision training		Complete training with the teachers on vision	2/16
		4.	Start balance resources for teachers	Research balance interventions that are appropriate for the women	Begin working with women to improve balance and continue assessment	2/16
		5.	Make 1 Newsletter Infographic on Executive function	Research executive function interventions	Create and send educational sheet for newsletter to Abby by Friday	2/17
			function		Meet with site mentor to discuss progress	2/18
		6.	Create visual schedules for classrooms	Research age- appropriate visual schedules and compile resources	Take pictures for visual schedule, talk to teachers about the stations they want on the visual schedule, copy, laminate, cut	2/15
7	Implementation	1.	Create large motor structured	Research structured	Create resource for student and for teacher's use	2/21

			exercise program for children	interventions for large gross motor	to lead exercise program	
		2.	Finish balance HEP and stretching HEP for women in the AP class	Continue research on balance interventions	Create resource for student and teacher's use to lead balance intervention, and for the women to take home	2/23
		3.	Create resource for children's handwritin g interventio	Research and create resources for handwriting interventions	Type all names of students, purchase laminated folder, insert names with folders	2/24
		4.	n program Midterm evaluation	Set up a time to meet with site mentor to discuss and review midterm evaluation	Meet with site mentor to discuss progress	2/25
8	Implementation	1.	Train teachers of the children's classroom	Finish research and resources to give to teachers	Set up a time to meet with the classroom teachers	2/28
			on structured large motor exercise program to complete with classes and		Provide training and resources for the structured large motor exercise program	3/1

			implement program			
		2.	Provide teacher balance training		Set up a time to train teachers of the AP classroom to go over balance intervention	2/28
					Train teachers of the AP class on simple balance interventions and research	3/2
		3.	Finish ergonomic resources for the soap making leaders	Continue to research ergonomic safety and finish resources	Finish and print presentation materials	3/1
		4.	Make 1 Newsletter on Sensory Developme nt		Create and send educational sheet for newsletter to Abby by Friday	3/3
		5.	Review midterm evaluation with site mentor		Meet with site mentor to discuss midterm evaluation	3/3
9	Implementation	1.	Train soap making leaders and employees in ergonomics	Finish resources for teachers on ergonomics	Set up a time to meet with the soap making leaders to go over resources	3/7
			5		Train the soap leaders and makers on the	3/10

		2.	Train classroom teachers on the handwritin g		research, intervention, and safe ergonomics with soap making Set up time to meet with teachers to discuss handwriting intervention	3/7
			interventio n and program resources created		Train teachers on handwriting program	3/9
		3.	Make 1 Newsletter on BUE strengtheni ng		Create and send educational sheet for newsletter to Abby by Friday	3/10
			C		Meet with site mentor to discuss progress	3/11
		4.	Implement balance HEP with women in the AP class		Print balance HEP for the women	3/7
10	Implementation	1.	Reassess Adaptive vision tools for women in the AP course	Ensure women are using adaptive tools correctly and are helpful	Order more vision adaptive tools	3/13
		2.	Gather feedback on the structured large gross motor	Take feedback from the teachers and start to research and adjust program to fit needs	Set up a time to get feedback from the classroom teachers	3/14

			exercise program and handwritin g program		Have meeting to get feedback from teachers	3/15
		3.	Implement stretching HEP with women in the AP class	Finish stretching HEP resource	Print Stretching HEPs for women to take home Meet with site mentor to discuss progress	3/14 3/18
11	Discontinuation	1.	Re-assess children on the Single Leg Balance Test	Score the children Compare the outcome measure scores from week	Work with each of the children individually to complete the assessment	3/21 & 3/23
			1050	3 to the scores from week 11	Compile data and find out improvement based on outcome measure	3/22
	Implementation	2.	Continue to modify the children's large and	Adjust and continue research on appropriate interventions and	Find out how to reach out to First steps if required	3/22
			fine motor interventio ns/program based on results	resources available for First Steps if required	Submit referral for 1 child to First Steps	3/24
					Meet with site mentor to discuss progress	3/25
12	Discontinuation	1.	Finish re- evaluation with the children	Score the children Compare the outcome measure scores from week	Compile data and find out improvement based on outcome measure	3/28

				11 to the scores from week 3		
	Implementation	2.	Continue to modify the children's large and fine motor interventio ns/program based on results	Adjust and continue research on appropriate interventions and resources available for First Steps if required	Set up time to meet with classroom teachers to discuss the child's progress and what the scores indicate	3/29
	Implementation	3.	Continue to modify the women's balance interventio ns/program based on results	Research modifications for balance program	Modify and work 1:1 with women in the AP class Meet with site mentor to discuss progress	3/29 3/31
13	Discontinuation	1.	Finalize and clean data	Gather all data, clean data, make tables clear for dissemination and scholarly report	Meet with faculty mentor to discuss data and tables Edit tables and data	4/6 4/6
		2.	Create and finalize site presentatio n	Create PowerPoint presentation for site, add in all data and observations	Create and finalize PowerPoint	4/5
		3.	Edit Scholarly Report	Edit report based on faculty mentor's feedback and how project has changed	Access faculty mentor comments and make edits to report	4/7

Development of Structured Large Motor and Balance Programs to Improve Occupational 31 Performance for Women and Children

		4.	Send post programmi ng perceived knowledge survey to staff	Create and send out post programming survey to all volunteers and teachers that participated in the pre- programming survey	Gather emails, previous data, send out survey Meet with site mentor to discuss progress	4/4 4/8
14	Dissemination	1.	Finalize data for post programmi ng perceived knowledge survey	Gather data, send reminder emails to fill out survey	Finalize data, add to tables to disseminate to staff	4/11
		2.	Disseminat e project to site	Confirm time to disseminate to staff and volunteers	Give presentation to Heart Change personnel	4/15
		3.	Complete Site mentor evaluation	Set up a time to meet with Site mentor	Meet with site mentor to discuss the capstone, final evaluation, and closing remarks.	4/14