

Student Masters Projects and Presentations 2006



Exploring the Culture of Migrant Latinos in Eastern, North Carolina: A mini-focused Ethnographic Study)

The purpose of this research study was to explore the culture of Migrant Latinos in Eastern, North Carolina. By using a mini-focused ethnographic study, data was gathered and analyzed. The study focused on a female Latino living in Eastern, North Carolina. An interview was conducted and photographs were taken by the interviewee and the researchers. Other artifacts were gathered from the community and from government documents to learn more about her Latino culture. This study showed that there are themes related to the elements of culture that were found through the data analysis process. Individuals from different cultures assign different values to different aspects of their everyday lives. It is important to understand these assigned values when working with clients from a culture other than our own to be a culturally competent occupational therapist.

Amber Parke and Danielle Wilson, professional master's degree graduates, worked under the direction of Drs. Beth Velde and Peggy Wittman.



The Lifestyle of a Family During and After Occupational Therapy Framed in the Lifestyle Performance Model with Sensory Integration in a Case Study Guided by Phenomenological Inquiry

The purpose of this study was to describe the lifestyle of a family during and after receipt of occupational therapy services. It was framed in the Lifestyle Performance Model with Sensory Integration as the intervention. This study resulted in a case study guided by phenomenological inquiry. A case study method utilizing interview and journal data from the child's mother, along with observation and intervention notes made by the treating therapist was used. Data analysis resulted in five themes: 1) Environment/Freedom and Flexibility, 2) Being part of the Pack, 3) The Screaming Place, 4) Acquiring Tools and Resources, and 5) Changing. The results helped to understand the meaning of the lifestyle of a family receiving occupational therapy services. This study will enable further research and facilitate discussion of the possible integration of Sensory Integration theory with the Lifestyle Performance Model in occupational therapy.

Stacey Lamm, a professional master's degree graduate, worked under the direction of Dr. Peggy Wittman.



The Development of Interactive Metronome Protocols for Older Adults

This research study sought to determine whether or not the Interactive Metronome (IM) is an effective intervention for improving motor control in older adult drivers on the long form test of the IM using newly established protocols. The performance requirements of the IM as it is established for children and younger adults can be viewed as strenuous and challenging to complete. With the proposal to use IM with an aging population and improve their motor control and driving skills the development of these protocols was seen as imperative. Currently, there are no standardized protocols established to work with aging adults. Reviewing the IM's suggested norms for younger populations and the time frames suggested for their enhancement, a protocol was set up that was administered across a variety of age groups. The most significant change was that the IM was performed while in a sitting position rather than standing as originally developed. The outcomes from the IM showed notable changes and improvements in the aging adult's post-test scores. Participants demonstrated a competitive nature in wanting to make marked changes and improved scores and appeared self motivated to do so. The protocols appear effective and a viable option for delivery. The IM could possibly be an effective restorative intervention that can be used by occupational therapists to help enable older adults to drive safely as late in life as possible.

Laura Kreps, a professional master's degree graduate, worked under the direction of Dr. Leonard Trujillo.



The Effectiveness of a Computerized Motor-free Visual Perception Training Program on Normal Older Adults, as Measured by the MVPT-3

Two separate studies were conducted to examine the effect of the computerized training program on the Motor-free Visual Perceptual Test (MVPT-3) scores of older adults. The researchers wanted to determine if visual perceptual skills could be improved using a computerized training program. Visual perceptual skills are the focus, due to the complex visual perception and attention skills required for driving. Six participants were evaluated using the MVPT-3 training evaluation to determine a baseline score. Each participant then agreed to complete ten; 30-45 minute computerized training sessions to simulate a typical clinical treatment. Daily documentation was conducted by the participants, including which sessions completed, time spent, and number of items missed. After the ten sessions, the MVPT-3 posttest was given to determine if the participant's scores improved. Pretest and posttest results determined that three participant's scores did improve. These results support the notion that Computerized Visual Perceptual Training does positively affect the MVPT-3 posttest scores.

Amanda Sutton and Dana Bisette, professional master's degree graduates, worked under the direction of Dr. Leonard Trujillo.



Fear of Falling and its Relationship to Anxiety, Depression, and Activity Disengagement Among Community-Dwelling Seniors

Having a fear of falling is common among community-dwelling older adults whether they have experienced a fall or not. A fear of falling is created by multiple factors and has been associated decreased occupational performance, disengagement of activities, depression, anxiety and physical deconditioning. This study examined the

correlation between fear of falling among community living seniors ages 55 years and above living in Eastern, North Carolina and how these factors are independently associated with the fear of falling. Using The Geriatric Depression Scale, Survey of Activities and Fear of Falling in the Elderly, and the Hamilton Anxiety Scale, participants were assessed. The results showed that there is a correlation between anxiety and the fear of falling, depression and the fear of falling, and anxiety and depression. It was also found that 23% of participants with a fear of falling abstained from activities that they enjoyed. This study shows that occupational therapists working with seniors should consider the interrelationship between fear of falling, depression, and anxiety in regards to activity engagement and functional performance.

Puneet Dhingra, Kira Cogdill, and Justin Daugherty, professional master's degree graduates worked under the direction of Dr. Jane Painter.



Animals and the Friendship Club

The Friendship Club is an after-school social skills group for children. This study explored the meaning of animals within the Friendship Club from the participant's perspective using a phenomenological design resulting in a phenomenological description. A certified social therapy dog and two chinchillas were incorporated into the Friendship Club. The animals were included in group activities as general participants in the group.

Data collected included field notes, video recordings, participant journals, parent emails, and activity products/rules. Data was then analyzed and grouped into themes. The participants created meaning within the four themes: "Interaction with Animals", "Facilitating Interaction with Humans", "Animals Modifying Participants' Behavior", and "Animal Viewed as Significant Other". Using the animals in the groups facilitated social interactions between participants, leaders and participants, and between the participants and the animals. For children with difficulty in social relationships, the use of animals may increase the opportunities to interact with others.

Kristy Davis and Audrey Clodfelter, professional master's degree graduates, worked under the direction of Drs. Beth Velde and Peggy Wittman.

Friendship Club: A Description of the Social Interaction Skills of Children with Asperger Syndrome

The purpose of the study was to describe the social interaction skills of children with Asperger's Syndrome (AS) participating in Friendship Club, an after-school program designed to help participants practice and learn skills for making and keeping friends. Five weekly sessions lasting one and half hours each were held. Seven children (between 8-13 years old) and a social therapy dog participated in the Friendship Club. Each session was planned by two occupational therapy students to create an environment in which the participants could interact with others and develop social skills as they participated in selected activities. Observation notes of group sessions and video tapes of sessions, and parent and participant journals were analyzed for recurring themes. Results found that participants did not develop new social skills from their participation in the Friendship Club but they were able to practice their existing social skills and communicate appropriately with their peers or leader in a structured environment. Limited social skills make it difficult for children with AS to form friendships and relationships. Participation in the Friendship Club encourages members to practice these skills while having fun doing activities with peers.

Lauren Clark and Jennifer Baldwin, professional master's degree graduates, worked under the direction of Drs. Beth Velde and Peggy Wittman.

Sensory Processing in the Classroom: Effects on Handwriting, Classroom Behavior, and Academics.

The purpose of the project was to determine if a sensory processing program implemented in a third grade classroom would influence handwriting, academics, and classroom behavior. Sixteen third grade students participated in structured sensory input daily for six weeks. Eight students were randomly selected to participate in an extra sensorimotor group. Evaluation Tool of Children's Handwriting, School Functional Assessment, and report cards were utilized to evaluate handwriting, behavior, and academic changes. The majority of students improved in letter formation and cognitive behavioral social tasks. Science grades improved for only the eight students that participated in the group sessions.

Nicole Darden and Jessi Mounce, professional master's degree graduates, worked under the direction of Dr. Carol Lust.

Early Intervention in Pre-K Head Start Classrooms

The purpose of this study was to investigate the effects and usefulness of occupational therapy-based modules in the Head Start classroom. Standardized test results of two similar Head Start classes were compared to see if students in a classroom which implemented fine motor and visual perceptual modules demonstrated higher scores. Pre and post-test scores were obtained for comparison using the Mullen Scales of Early Learning. The intervention group demonstrated the most improvement in fine motor skills, however, there was no significant difference in visual perceptual skills between the control site and the intervention site.

Jenny Eborn and Reena Mehta, professional master's degree graduates, worked under the direction of Dr. Carol Lust.

The Effectiveness of the Interactive Metronome for Children with ADHD: A Single Case Study Focusing on the Gross and Fine Motor Changes.

This study used two cases to determine if the interactive metronome was effective with children diagnosed with attention deficit hyperactivity disorder (ADHD) is increasing. The results provided support for using the Interactive Metronome (IM) treatment for improving fine and gross motor coordination as indicated on the Bruininks-Oseretsky Test of Motor Proficiency and can be used to direct and develop future studies investigating the affects of Interactive Metronome training on children with ADHD.

Jennifer Giles and Kimberly Holt, professional master's degree graduates, worked under the direction of Dr. Leonard Trujillo.

Effects of Hippotherapy on children with physical disabilities

This study examines whether hippotherapy could increase the efficiency of activities of daily living in children with physical disabilities. In a pretest/posttest design, the Pediatric Evaluation Disability Inventory and the Canadian Occupational Performance Measure were administered to seven children, ages three to six years of age, who have a variety of physical diagnosis. Each child was involved in a therapeutic riding program for twelve weeks. Results for the Canadian Occupational Performance Measure demonstrated functional and satisfaction changes of all children who completed the pretest and posttest. The Pediatric Evaluation Disability Inventory showed significant changes for all children in at least one of the subtest of the self-care domain. These results suggest that the use of hippotherapy has a positive effect on not only direct physical aspects, but also on the performance of daily living activities

Malysa B. Weston, a professional master's degree graduate, worked under the direction of Dr. Anne Dickerson.

Sensory Integration Therapy: A Single Subject Case Study

The purpose of this study is to examine the effectiveness of sensory integration therapy used with a child with sensory integration dysfunction. Pretests on a 3 year old boy and an interview with his mother were completed prior to the beginning of therapy. Post tests and an interview were done after therapy. The young boy exhibited positive changes in emotional reactivity and social interaction which affected occupations in four domains of the Life Style Performance Mode.

Deann Moser , a professional master's degree graduate, worked under the direction of Dr. Peggy Wittman.



Effects on Handwriting of Elementary School Students

The purpose of this study was to determine whether the use of a pencil grip called the Grotto Grip improves the handwriting quality of first graders. A quasi-experimental design was used with an experimental and a control group. Children were evaluated in a pretest/posttest manner using the Evaluation Tool of Children's Handwriting. One classroom was randomly selected to receive the Grotto Grip and a standardized pencil during writing instruction while the other used the standardized pencil only. The teacher in the experimental group received instruction in the use of the grip. While there was no statistical difference in the two groups at the end of the study, the short exposure (4 weeks, one hour on school days) may not have been sufficient time to create change. Results of an interview with the teacher provided anecdotal evidence that the grip was easy to use, helpful for students, and assisted students in developing a mature grip.

Rachel Jackson, a professional master's degree graduate, worked under the direction of Dr. Beth Velde.



Ready to Learn: A study of the Effects of a Sensory Processing Program Including One-point Swing on Third Grader's Handwriting and Classroom Behavior

This study was designed to determine if sensory processing interventions that target the vestibular and proprioceptive systems (specifically structured single-point suspension swinging and short, specific sensorimotor activities throughout the day) improve the handwriting ability and classroom behavior of third graders. Twenty-eight students in two third grade classrooms were evaluated before and after the interventions.

The ETCH (Evaluation of Children's Handwriting-Manuscript and the School Function Assessment) were the assessments used. One classroom served as the control group whereas the other received the interventions. The results showed that significant improvements were observed in the experimental group in the elements of the school function assessment. Written work was significantly improved after the interventions as well as compliance with adult directives and school rules. These results along with a related Ready to Learn study indicate that sensory processing interventions have a beneficial effect on the handwriting and classroom behavior of third-graders.

Angela Walker and Christine Wilkins, professional master's degree graduates, worked under the direction of Dr. Carol Lust.

Is There a Relationship Between Performance on In-Clinic Driving Assessments and On-road Driving Performance Among Elderly Adults?

The purpose of this study was to determine if there is a relationship between performance on in-clinic assessments and on-road driving performance in elderly that have been referred for a driving evaluation and community-based well-elderly. The study examined the performance of 9 elderly people that were referred to Pitt County Memorial Hospital for a driving evaluation as well as 8 community-based well-elderly volunteers ages 65 and over. Data was collected through various in-clinic assessments administered by two occupational therapy students. Assessments tested areas of vision, cognition, physical ability, proprioception, reaction time, and rules of the road. Data was also compared between the two groups in order to identify discrepancies in in-clinic performance that may identify at-risk drivers. This study may help occupational therapy practitioners determine appropriate screening tools that will identify at risk older drivers who may need a full driving evaluation. This will help to eliminate unnecessary and costly driving evaluations, assist the occupational therapy practitioner identify when to refer a client for a full driving evaluation, and assist in determining when driving rehabilitation would enhance performance.

Heidi Hebert and Jennifer Albright, professional master's degree graduates worked under the direction of Dr. Anne Dickerson.



Does the AMPS Predict Problems with Driving in Older Adults?

The purpose of this study was to determine if the AMPS (Assessment of Motor Processing Skills) could be used as a screening tool for a driving evaluation. Driving evaluations are often expensive and time intensive. Finding an accurate, effective, and cost effective screening tool is essential to benefit older drivers. Since the AMPS is a sensitive assessment completed under an hour, it could be effective for screening older drivers. Thirteen subjects were recruited for the study. All of the subjects were older adults living in the community. Five subjects were referred by either a physician or the Department of Motor Vehicles as “at risk” drivers and were to complete a driving evaluation. Eight subjects were recruited as healthy, safe drivers. All subjects completed a full driving evaluation consisting of both in-clinic assessments and a behind the wheel driving tests and all completed the AMPS assessment by a certified AMPS therapist. The results found were that there was no significant

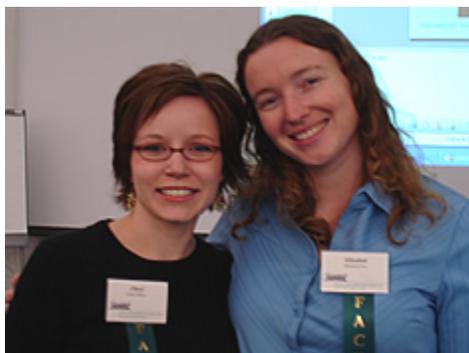
difference between the well subjects and the referred, “at risk” subjects on the AMPS assessment in terms of motor and process skills. Although, the well group did not have any referrals for the driving assessment, they did have some underlying problems that affected their AMPS score. The AMPS did prove that it is a sensitive tool that can detect disabilities in the motor and process skills of people but further research is warranted to determine if it can be used as an effective tool for screening older drivers.

Kristin Bullock, a professional master’s degree graduate, worked under the direction of Dr. Anne Dickerson.

Establishing the Standards of Care for Common Injuries to the Thumb: A Literature Review

This study collected data on the standards of care for thumb injuries. Specific attention was given to the types of splints that were used in developing the intervention for these injuries. The method used was an extensive review and multiple search enquiries of databases using the key words: “thumb injuries”, “thumb spica”, and “thumb splints”. Chapters from occupational therapy text books and surgical protocol guidelines were reviewed for consistency and identification of the standards of care. The results were that across the literature, definite standards of care were designed and implemented with some variability in how the actual standards were applied. This supports the conclusions and expectations that a varied individualized approach remain possible thus allowing therapists to develop client centered interventions and approaches even within a strict protocol regime setting.

Elizabeth Frey, a professional master’s degree graduate, worked under the direction of Dr. Leonard Trujillo.



An Alternative Splint and Intervention Protocol for Thumb Carpometacarpal (CMC), Metacarpophalangeal (MCP) and Distal Phalangeal (DIP) Joints Using Neoprene as the Base Material

The objective of this study is to compare the effects of a neoprene thumb immobilization splint and a traditional thermoplast thumb immobilization splint on dependent measures including: level of compliance, pain level and functionality in clients with diagnosed hand conditions. Six clients with

varying hand conditions and a referral from a physician for a thumb immobilization splint will participate in the study with alternating treatment design that compares the effects of the two splints. Pain will be measured by an analogue pain scale of 1-10 and compliance/functionality will be based on a self-report questionnaire. A daily activity log will be used to record the participant's daily activities, pain level and which splint was worn during those activities. The prescribed length of time the splints will be worn will be dependant on the diagnosed hand condition of each client. Data will be compared and analyzed to determine the participant's splint preference. This study should show higher levels of function and comfort and lower pain levels with the use of the neoprene thumb immobilization splint when compared to the thermoplast splint. This study's results can be used to direct further studies on the effects of the neoprene splints.

Cheryl Harris, a professional master's degree graduate, worked under the direction of Dr. Leonard Trujillo.



Fear of Falling and its Relationship with Anxiety, Depression, and Activity Disengagement among Community-Dwelling Seniors.

Puneet Dhingra, a post professional student in the Masters of Occupational Therapy Program presented a poster at the Graduate Student Research Day, March 6, 2006 in Medenhall Hall. Puneet is working with Dr. Jane Painter on his masters project.



Effects of Therapeutic Riding on Activities of Daily Living

The purpose of this study is to determine if a weekly therapeutic riding program (total of nine weeks) affects a child's performance of activities of daily living (ADL) as evaluated by the parents. Satisfaction with ADL performance by the parents was also evaluated. . There are 8 participants, ages 3 to 12. They were observed performing ADL activities using the Assessment of Motor and Process Skills before the program started. The Canadian Occupational Performance Measure was used prior to beginning the program in order to determine the parent's evaluation of performance and satisfaction of ADL. The participants rode once per week in

30-minute lessons for nine weeks. All were reevaluated at the end of the session using the same two assessment. The study will determine if there is an increase in motor and process skills during ADL and an increase in parent's perception of their child's performance and satisfaction of ADL.

Elizabeth Gushee, worked on this project under the direction of Dr. Anne Dickerson. Elizabeth is also an Advanced Level Certified North American Riding for the Handicapped Association Instructor.



Impact Participation in Retreat has on Quality of Life of Survivors of Traumatic Brain Injury

Graduate students, *Becky Howe, Katie Jones, and Tina Lewis* are currently working with Dr. Beth Velde on their master's project. The students participated as staff members at a weekend retreat hosted by the Neuse Mental Health Center for brain injury survivors in June, 2003. Following the retreat, students have been submitting paperwork for IRB approval, gathering

background information through literature reviews, and collecting data by interviewing survivors who attended the retreat. This project seeks to qualitatively analyze and interpret the experiences of traumatic brain injury survivors who participate in these retreats and discuss how these experiences influence their quality of life.