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THE USE OF OCCUPATION-BASED INTERVENTIONS IN LONG-TERM CARE: A  
QUALITATIVE STUDY

by

Amy Jo Jensen, MOTS

Mallory Carlson, MOTS

Advisor: Sonia Zimmerman, Ph. D., OTR/L, FAOTA

An Independent Study

Submitted to the Occupational Therapy Department

of the

University of North Dakota

in partial fulfillment of the requirements

for the degree of

Master of Occupational Therapy

Grand Forks, North Dakota

May, 2012

APPROVAL PAGE

This independent study submitted by Amy Jo Jensen and Mallory Carlson in partial fulfillment of the requirement for the Degree of Master of Occupational therapy from the University of North Dakota, has been read by the Faculty Advisor under whom the work was completed and is hereby approved.

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Faculty Advisor

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Date

PERMISSION

**Title:** The Use of Occupation-Based Interventions in Long-Term Care: A Qualitative Study

**Department:** Occupational Therapy

**Degree:** Master of Occupational Therapy

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We love you!

## ABSTRACT

**Purpose:** To explore occupational therapists' use of occupation-based interventions in long-term care facilities.

**Methodology:** A literature review was completed on the use and effect occupation-based intervention has within a long-term care practice setting. Based upon the findings of this literature review, a qualitative research study was conducted using a grounded theory approach adopted from Strauss and Corbin (1998). Six occupational therapists working in long-term care facilities in Minnesota were recruited through purposive sampling using convenience and snowballing techniques. Each participant was interviewed once using a semi-structured interview. Data from the interviews was then coded and grouped into categories. Themes emerged from the categories and represented participants' use and perception of occupation-based interventions in long-term care.

**Results:** The data revealed five categories including participants' focus of current interventions, barriers to occupation-based interventions, occupation-based intervention characteristics, participants' perception of job, and facilitators of occupation-based interventions. From these categories, three themes were developed: 1) varying degrees in understanding of occupation-based intervention, 2) complexity of long-term care practice setting, and 3) impact of reimbursement on occupational therapy services. Two assertions emerged from the categories and themes. The first assertion was occupational therapists could benefit from additional knowledge regarding the application of occupation-based interventions in practice. The second assertion was, given the complexity of the long-term care practice setting, occupational therapists could benefit from strategies to overcome barriers that are present for implementing occupation-based interventions.

**Discussion & Recommendations:** Although there were varying degrees in understanding of occupation-based intervention, participants reported functional and purposeful tasks provide clients with success and greater life satisfaction. The results of this study indicate the need for further and continued education on current occupational therapy language regarding the understanding and use of occupation-based interventions in long-term care. Additionally, therapists working in long-term care could benefit from implementing occupation-based model-driven therapy to assist with providing occupation-based intervention from evaluation to discharge. Future research is suggested to increase the strength of the current findings, and provide occupational therapists with evidence supporting the use of occupation-based interventions and how they affect the care provided in long-term care. Additionally, research that focuses on the client's perception of occupational therapists use of occupation in therapy would also be beneficial.

## CHAPTER I. INTRODUCTION

The older adult population is on the rise as the baby boomer generation has begun to reach late adulthood. It is estimated adults 65 years of age and older make up 13% of the U.S. population today (U. S. Department of Commerce, 2011). Occupational therapy can play a role in assisting older individuals participate in life through continued engagement in meaningful occupations. Occupations are meaningful activities that encompass daily life and give meaning and value to an individual; examples include: self-care, leisure and productivity (Hasselkus, 2011). Occupational therapy utilizes an individual's everyday activities (occupations) for the purpose of enhancing his/her participation in daily life (American Occupational Therapy Association [AOTA], 2008). According to Trombly (2008), participating in occupations with an end goal results in positive intervention outcomes. Therefore, using an individual's occupations in therapy can result in positive outcomes and enhance life participation. Research in regards to the implementation of occupation-based interventions in long-term care is limited, therefore this area of practice was chosen for the study.

A qualitative research study was completed to explore occupational therapists' use of occupation-based interventions in long-term care facilities. The preliminary research questions for this qualitative study included: What types of therapeutic interventions are occupational therapists in long-term care utilizing? What are occupational therapists' understanding of occupation-based intervention? and What are the



barriers to implementing occupation-based interventions in the long-term care practice setting? Six participants were recruited to complete one-on-one interviews with a student researcher, and the interview data was analyzed to provide preliminary results. Based on the review of literature, it was expected that occupational therapists working in long-term care facilities were not utilizing occupation-based interventions during therapy to the extent possible. The researchers also expected that the results of this study would contribute to the knowledge and evidenced-based practice of the profession, in regards to the use of occupation-based interventions.

Limitations of this study include a small sample size, consisting only of occupational therapists working in Minnesota, and inexperience of the student researchers. The findings of this study serve to provide occupational therapists and the profession with knowledge for evidence-based practice and future research studies.

Some of the main terms used throughout this study are occupations, occupational therapy, occupation-based interventions, and long-term care. Occupations are meaningful activities individuals engage in during their day (AOTA, 2008). According to AOTA (2008), occupational therapy promotes the participation and health of individuals through engagement in occupations. Occupation-based interventions refer to interventions where the client engages in meaningful and client-centered occupations that meet his/her identified goals (AOTA, 2008). For this study, long-term care is defined as any skilled therapy services that address personal care or health needs of individuals with disabilities or chronic illnesses (US Department of Health and Human Services, 2008). Examples of long-term care facilities include nursing homes, assisted living and skilled nursing facilities.

A literature review containing information about occupation, occupation-based practice, and long-term care is found in Chapter II. Methodology and the processes used during the research study are presented in Chapter III. Chapter IV contains the data analysis process and the results generated from the interview data. Chapter V provides a summary of the research study, discussion of the results, limitations of the study, recommendations for occupational therapists, and suggestions for future research. The Appendices include the interview questions, informed consent, data analysis summary, and the Institutional Review Board (IRB) approval form for the research study.

## CHAPTER II. LITERATURE REVIEW

### Introduction

The profession of occupational therapy strives to enable clients with engagement in occupations (AOTA, 2008). A growing area of practice is occupational therapy provided in settings serving geriatric populations. The baby boomer generation is approaching later adulthood indicating the need for further shifts in occupational therapy practice. In the United States today, individuals 65 years of age and older account for 13% of the total population. This is a 15.1% increase from 2000, indicating that the baby boomer generation is rapidly reaching late adulthood (U.S. Department of Commerce, 2011). Day (1996) stated that by 2030 it is estimated that one in five Americans will be 65 years or older. With this aging population on the rise, the need for occupational therapy services will be of greater demand in the coming years.

Recognized as an exemplar of occupational therapy practice, Jackson, Carlson, Mandel, Zemke and Clark (1998) have researched and documented positive results of a well elderly occupational therapy program. The program demonstrated the important contribution that occupational therapists bring to preventative health care by focusing on occupation. The authors stated, “. . . occupations have powerful, lasting therapeutic effects that radiate to numerous dimensions of well-being (p. 333). Waite (2011), summarized the findings of Clark’s et al. follow-up study of the well elderly program by

stating, “. . . small, healthy lifestyle changes-coupled with involvement in meaningful activities-are critical to healthy aging” (p. 8).

By incorporating clients’ meaningful activities into the therapeutic process, client-centered, occupation-based practice emerges. Occupation-based practice encourages clients to develop goals and engage in self-identified occupations during therapy (AOTA, 2008). In order to implement occupation-based practice, occupational therapists use a client-centered approach. Occupational therapists effectively collaborate with their clients to identify personally meaningful occupations, and provide quality care following the holistic view of occupational therapy.

### **Defining Occupation**

Within the field of occupational therapy, the term occupation defines the scope of practice; it is the core concept of the profession (AOTA, 2008; Rebeiro & Cook, 1999). However, defining the word occupation has often been challenging. The term occupation has roots in common language, resulting in the control of its meaning being outside the profession (Dickie, 2009). According to Schwartz (2003), early founders of the profession defined occupation broadly as habit training, handcrafts, pre-industrial shop, and graded physical exercise. Additionally, the founders believed “meaningful engagement in occupation was the key to creating a healthy body and mind” (p. 8). Due to the complexity of the term, the AOTA has chosen to reflect multiple definitions. AOTA (2008) uses the term occupation to represent the broad understanding of one’s everyday activities, or activities of daily living. Hinojosa and Kramer (1997) define occupation as “activities that people engage in throughout their daily lives to fulfill their time and give meaning to life” (p. 865). Additionally, occupations can be the “daily

activities that reflect cultural values, provide structure to living, and meaning to individuals; these activities meet human needs for self-care, enjoyment, and participation in society” (Crepeau, Cohn & Schell, 2003, p. 1031). Christiansen, Baum and Bass-Haugen (2005), stated that occupation is the “engagement in activities, tasks, and roles for the purpose of productive pursuit maintaining one’s self in the environment, and for purposes of relaxation, entertainment, creativity, and celebration; activities in which people are engaged to support their roles” (p. 548). Furthermore, occupations provide “a sense of purpose, meaning, vocation, cultural significance, and political power . . . ” (Christiansen & Townsend, 2004, p. 2). Consistent with a client-centered, occupation-based approach, Weinblatt and Avrech-Bar (2001) stated, “it is impossible to give an individual’s occupation any meaning other than the subjective meaning that they, themselves, choose to give it.” Similarly, Hasselkass (2011) emphasizes the importance of the individual’s attribution of meaning to ‘doing’. Through actual participation in occupations, individuals find meaning and purpose in life.

Occupational therapy literature frequently links the term occupation with activity or tasks. However, according to Christiansen and Townsend (2004) and Pierce (2001), the terms activity and task are not one in the same with occupation. Occupations provide meaning, purpose and cultural significance to individuals (Christiansen & Townsend, 2004). “Whereas, tasks or activities may fulfill specific purposes, occupations bring meaning to life” (Canadian Association of Occupational Therapy [CAOT], 2007, p. 34). Pierce (2001) defined occupation as “a person’s personally constructed, one-time experience within a unique context” (p. 138). On the other hand, Pierce defines activity as “a more general, culturally shared idea about a category of action” (p. 138).

Additionally, some definitions of occupation have been known to place groups of occupations into categories. For instance, the CAOT divides occupation into self-care, leisure, and productivity (CAOT, 2007). However, Hammell (2004) stated, “some of the most meaningful occupations cannot be made to fit into any of the three categories”. According to Dickie (2009), placing occupations into categories can be problematic. Categorizations can be troublesome due to each individual having their own meaning associated with occupations. For example, eating a meal with others may be considered an activity of daily living (ADL) for one person, but be viewed as social participation to another (Dickie, 2009). Pierce (2003) also categorized occupations into pleasure, productivity, and restoration. Pleasure consists of play and leisure, humor, sensation, addiction and ritual. Productivity encompasses avoidance of boredom, the need for a challenge, work ethic, work identity, and stress. Restoration refers to eating, drinking, sleeping, self-care, hobbies and spirituality (Pierce, 2003).

Occupations are closely associated to each individual’s experience and may not fit neatly into any single category. Hinojosa and Kramer (1997) stated that occupations are thought to be representative of an individual’s unique characteristics and traits. Similarly, Pierce (2001) reported it is difficult to understand an individual’s meaning and experience with their unique occupations. An individual can be defined by the occupations in which they choose to engage (Pierce, 2001). The understanding of occupation is continuing to progress, however there is still a need for further research on the complex relationship between occupation and an individual’s health and well-being (Hinojosa & Kramer, 1997).

### *Benefits and Barriers of Occupation*

A history of participating in health promoting occupations has been found to assist individuals with remaining independent (Jackson et. al, 1998). Additionally, Nilsson, Bernspang, Fisher, Gustafson, & Lofgren (2007) found engagement in occupations impacted life satisfaction for individuals 85 years of age and older residing in Sweden. The individuals with low participation in leisure activities and activities of daily living had lower life satisfaction, compared to individuals with higher participation in leisure activities and activities of daily living who reported greater life satisfaction (Nilsson et al., 2007).

Despite the documented benefits of occupation, Dickie (2009) stated that occupations can also be dangerous, harmful, and damaging to one's self, others, and society. For example, the use of drugs can be harmful to both the individual, others around them and society (Dickie, 2009). Another example is an individual performing a job or task in which they are not trained. Without proper training, an individual increases the risk of potential injury to themselves and others.

### **Occupation-Based Practice**

According to the AOTA (2008), the profession strives to assist clients with engagement in occupation in a way that supports health and participation in life. It is the role of the occupational therapist to integrate occupation into therapy based on the clients' wants and needs. When implementing occupation-based interventions, the occupational therapist encourages the client to engage in occupations that are client-directed and match his or her identified goals (AOTA, 2008). When using occupation in

therapy, occupations should be possible to achieve, but difficult enough to challenge the client.

### *Occupation-Based Assessment*

Prior to implementing client-centered interventions, the occupational therapist administers occupation-based assessments to gather information on the client's current occupational performance. According to Hocking (2001), administering occupation-based assessments allows the client and family to become familiar with occupational therapy services and play an active role in the therapeutic process. Law, Baum and Dunn (2005), reported that occupation-based assessment entails the following: identifying occupational performance issues by the client and/or family, evaluating the clients actual performance in areas of occupation, assessing the performance components that affect occupational performance, and assessing the client's environment and the impact it may have on his/her occupational performance. Hocking (2001) stated if evaluations focus exclusively on performance components, interventions are also likely to focus on those components potentially creating a barrier to occupation-based interventions. Likewise, evaluations that solely examine client impairments are less likely to unveil the abilities and interaction between his/her environments that facilitate occupational performance (Hocking, 2001). The use of occupation-based assessment can assist occupational therapists with incorporating occupation-based interventions into practice.

### *Occupation-Based Intervention*

Youngstrom and Brown (2005) stated the intervention process of occupational therapy aims to inflict change in a client's performance resulting in participation in occupations and life. Occupation-based interventions assist clients in connecting



participation in activities with performance in meaningful and purposeful life tasks. These interventions engage the client in performance of occupations or tasks of the occupation (Youngstrom & Brown, 2005). According to Moyers (1999), occupations are used in order to: assist with remediation of disabilities, encourage carry-over of new learning, improve adaptive capacity, enhance self-awareness, develop new habits and routines, facilitate emotional-regulation, and promote social interaction. The findings of Ward, Mitchell, and Price (2007) demonstrate occupational therapy's impact on empowering clients to participate in meaningful life activities in which they have always done. During occupation-based intervention, occupations can be used as means/end (outcome) of therapy. According to Trombly (1995), occupation-as-means is using occupation as a therapeutic agent of change to remediate impairments and help clients reach their goals. Occupation-as-means is defined as use of purposeful activities. Occupation-as-end is defined as the end goal of therapy. Engagement in occupation-as-end is meaningful because the client is engaging in activities they find important (Trombly, 1995). Utilizing both occupation-as means and occupation-as-end ensures occupation-based therapy and a client-centered approach.

### *Client-Centered Approach*

According to Maitra and Erway (2006), client-centered practice is a dynamic process where the client is the core of occupational therapy treatment. In order for client-centered practice to be successful, a client must have the desire and capability to engage in the decision-making process. Additionally, it is essential for the occupational therapist to have the desire to include the client in the process (Maitra & Erway, 2006). During this process, the occupational therapist develops a therapeutic relationship and assesses the

client's occupations, priorities, values, and experiences. (Chisholm, Dolhi, & Schreiber, 2004; Crepeau, Schell, & Cohn, 2003). According to Law and Mills (1998), the occupational therapist must "show respect for the choices the clients have made, choices that they will make, and their personal methods of coping" (p. 9). Demonstrating respect assists the occupational therapist with developing rapport and implementing client-centered practice.

Chisholm, Dolhi, and Schreiber (2004) reported "a client-centered approach significantly enhances your ability as an occupational therapist to provide occupation-based interventions" (p. 11). By understanding the client, occupational therapists are then able to use meaningful occupations in therapy.

#### *Outcomes of Occupation-Based Intervention*

Recent research in occupational therapy is providing evidence to support occupation-based interventions. According to Rogers (2007), although there are many barriers to using occupation-based interventions, encouraging clients to engage in chosen occupations can assist with the recovery process. By understanding the client's wants and needs, the occupational therapist is able to incorporate occupation to meet the expectations of the client (Rogers, 2007). Schindler (2010) found that adults with a psychiatric illness had an increase in their satisfaction and occupational performance after they engaged in client-centered, occupation-based interventions. Through a phenomenological study with older adults, Bontje, Kinebanian, Josephsson, and Tamura (2004) revealed, "satisfaction through occupations was found in maintaining daily routines and engaging in fulfilling occupations" (p. 140). Occupational therapy strives to address clients' physical, as well as psychosocial abilities and needs. Occupational

therapists working in hand therapy reported that occupation-based interventions assist with providing holistic care that addresses client's psychosocial health (Colaiani & Provident, 2010).

Incorporating meaningful occupations into the therapeutic process can facilitate self-awareness. Fleming, Lucas & Lightbody (2006) found preliminary support that using a client's chosen occupations and individualizing therapy sessions helps facilitate self-awareness for clients' who have an acquired brain injury. Colaiani and Provident (2010) found occupational therapists working in hand therapy reported benefits of using occupation during treatments. Occupation-based interventions assisted with creating meaningful therapy experiences that included the following characteristics: meaning to the client, relevance, client satisfaction, motivation, and compliance (Colaiani & Provident, 2010). Similarly, individuals may work harder and have more motivation if they are provided with choices (Murphy, Trombly, Tickle-Degnen & Jacobs, 1999).

Engagement in active learning and occupations can have an impact on outcomes for both children and adults. Hartman, Miller, and Nelson (1999) found that third graders were able to recall more information after engaging in hands-on activities than if they watched a demonstration. Similarly Lang, Nelson and Bush (1992) uncovered that nursing home residents' ages 53 to 93 years of age displayed better performance engaging in occupations with materials versus imagery-based occupation and rote exercise.

#### *Barriers to Occupation-Based Intervention*

Chisholm, Dohli & Schreiber (2004) report that occupational therapists have identified financial, educational and facility factors as barriers that hinder the

implementation of occupation-based interventions. The financial barrier refers to budget restrictions facilities possess in regards to obtaining needed supplies and equipment. Educational barriers were identified as lack of knowledge on the role of occupational therapy and occupational therapist's misconception that occupation-based interventions will not be reimbursed. Lastly, the facility factors that create barriers for implementation of occupation-based intervention include: physical space limitations, limited supplies and equipment and lack of support from administration. Colaianni and Provident (2010) also shared barriers of using occupation-based interventions in hand therapy, including space, the setting, cost, time, and availability of supplies. According to Maitra and Erway (2006), occupational therapists working in inpatient medical settings experience the most difficulties incorporating client-centered practice. This is also relevant to consider in long-term care settings because residents at these facilities commonly experience chronic illnesses (Maitra & Erway, 2006) making it more difficult to use true occupation. Similarly, Rogers (2007) reported occupational therapists in medical-based settings have expressed difficulty providing occupation-based interventions while meeting healthcare system needs due to heavy caseloads, reimbursement and productivity standards, and the implementation of treatment with limited resources.

Chisholm, Dohli and Schreiber (2000) provide suggestions for overcoming barriers. The occupational therapist is encouraged to use all of the resources that are available at the facility, create an environment that is similar to the client's home, and utilize the community. Occupational therapists should implement a client-centered approach, allowing the client to choose intervention priorities. During intervention, occupation-based kits can be useful for increasing occupation-based interventions

(Chisholm, Dohli & Schreiber, 2000). Colaianni and Provident (2010) shared that education on creative thinking and examples of occupation-based interventions is necessary, as well as continued research on the effectiveness and cost-efficiency of occupation-based interventions. Research would help administrators recognize the needed for adequate staffing, space, and supplies, thereby assisting with provision of occupation-based interventions (Colaianni & Provident, 2010). Recognizing the barriers is an essential part of occupation-based interventions; overcoming the barriers becomes the challenge.

### **Long-Term Care and Occupation-Based Therapy**

Long-term care is defined as any skilled therapy service that addresses personal care or health needs of individuals with disabilities or chronic illnesses (U.S. Department of Health and Human Services, 2008). Examples of long-term care settings include: nursing homes, assisted living, and skilled nursing facilities. Research has indicated that the use of occupation, with clients in long-term care settings, has been successful. In a study on the relationship between choice and quality of life, Duncan-Myers and Huebner (2000) found that residents in long-term care facilities have increased positive perceptions in their quality of life when given a choice among everyday tasks. Atwal, Owen and Davies (2003) also found that continued engagement in meaningful occupations has a positive impact on the life satisfaction of older adults. Robichaud, Durand, Bedard and Ouellet (2006) discussed the importance of quality of life indicators. They identified that relationship and physical environment characteristics of long-term care residents were most important to them and their families. Residents stated they want

to continue to feel they're "still alive, growing and part of the community life" (Durand, Bedard & Ouellet, 2006, p. 249).

Murphy (2010) identified productive aging to be one practice area in need of occupational therapy services. Research in regards to the implementation of occupation-based interventions in long-term care is limited, therefore this setting was chosen for the study.

### **Summary**

This literature review addressed the complex meaning of occupation, occupation used in therapy, outcomes, and occupation-based intervention in long-term care. Murphy (2010) identified the need for continued research to address the needs of the aging population. Jackson, Mendel, Zemke, and Clark (2001) suggest that further program development and research will assist occupational therapists with promoting quality of life in the aging population.

Occupational therapists' use of occupation-based intervention in long-term care settings has not been researched in the professional literature. It is difficult to identify what occupational therapists in long-term care settings are doing in regard to occupation-based therapy or the extent to which they perceive their work as a positive factor for the clients they serve. Therefore, the researchers decided to conduct a qualitative study to explore the use of occupation-based interventions in long-term care. The study intends to explore occupational therapists' use of occupation-based interventions in long-term care facilities. It is the researchers' intention to use a grounded theory approach in the conduct of the qualitative research study.

## **CHAPTER III. METHODOLOGY**

### **Research Purpose and Research Questions**

The purpose of this qualitative study is to examine and describe occupational therapists' use of occupation-based interventions in long-term care settings.

The research focuses on the types of therapeutic interventions used by occupational therapists' in long-term care, therapists' understanding of occupation-based interventions, and the facilitators and barriers to implementing occupation-based interventions in long-term care settings.

This chapter presents the qualitative research design and methods used for this study. The roles of the researcher and research procedures are also discussed.

### **Qualitative Research Design**

A qualitative research design was chosen for this study in order to explore aspects of an area of occupational therapy practice for which little is known (Stern, 1980). Qualitative research (Strauss & Corbin, 1998) aims to examine the individuals' life, their experiences, emotions and behaviors, as well as “. . . organizational functioning, social movements, cultural phenomena, and interactions between nations” (p. 11). The grounded theory approach to qualitative research creates a theory that addresses issues current theories do not cover. A grounded theory approach was used in this study to increase understanding, provide insight, and offer a guide to action. In this study the

researchers will generate assertions that can be used for further study and development of theory (Creswell, 2005).

### **Role of the Researcher**

Merriam (1998) identifies the role of a qualitative researcher as “. . . the primary instrument for gathering and analyzing data . . .” (p. 20). Qualitative research lacks structure within its procedures and protocols, allowing the researcher to acclimate to unanticipated events and change course in the quest for meaning. Merriam (1998) compares a qualitative researcher’s role to that of a detective. The qualitative researcher gathers information, analyzes the data, and formulates assertions, much like a detective would gather clues, find missing pieces, and solve the case. Another characteristic of a qualitative researcher is sensitivity. The researcher must be intuitive to the context and information being gathered. Sensitivity also allows the researcher to understand biases and how they affect the investigation and findings (Merriam, 1998). The researchers of this qualitative inquiry took on these characteristics in order to reduce biases and explore the use of occupation-based interventions in long-term care.

### **Unit of Analysis**

The participants of this research study were registered occupational therapists employed at long-term care facilities in Minnesota.

### **Sample Population**

The participants were recruited through purposive sampling using convenience and snowballing techniques. According to Creswell (2005), convenience sampling refers to choosing individuals that are available and willing to participate in the study.



Additionally, snowball sampling is the process where participants are asked to identify other individuals to partake in the study (Creswell, 2005).

Five of the participants were recruited through the student researchers' Level II Fieldwork supervisors. The final participant was recruited through an Internet search of long-term care facilities in Minnesota. The sample population included six occupational therapists working in long-term care facilities in Minnesota. Each therapist had a minimum of a bachelor's degree. Five of the six therapists had previous experience working in long-term care. The length of employment at their current facility ranged from two and a half years to sixteen years. Refer to Table 1. for participants' demographic information.

<b>Participants</b>	<b>Degree</b>	<b>Yrs. as OTR</b>	<b>Yrs at Current Facility</b>	<b>Role at Facility</b>
Jane	B.S. in OT*	12	2.5	Practitioner
Rachel	B.S. in OT	35	3.5	Practitioner
Sarah	B.S. in OT	25	8	Director
Wendy	B.S. in OT	18	8	Practitioner
Deb	B.A. in OT**	16	16	Practitioner
Lucy	B.S. in OT	17	9	Lead OT

Note: \* Represents Bachelor of Science in Occupational Therapy

\*\* Represents Bachelor of Arts in Occupational Therapy

### **Data Collection**

The researchers conducted a total of 6 one-to-one interviews, which led to saturation of the data. A quiet and distraction-free environment, that was convenient to the participants, was used to conduct the interviews. Interviews consisted of in-depth, open-ended questions allowing participants to elaborate and expand on responses. The first set of questions was used to gain an understanding of the participants' professional

work experiences. The remaining questions were used to gain an understanding of participants' use and perception of the interventions utilized in practice. The interview question set is located in Appendix A.

### **Trustworthiness**

According to Curtin and Fossey (2007), trustworthiness is the extent to which “findings are an authentic reflection of the personal or lived experiences of the phenomenon under investigation” (p. 88). The following steps were taken by the researchers to ensure trustworthiness. The researchers obtained approval from the University of North Dakota Institutional Review Board to conduct the study. Each participant signed a consent form agreeing to partake in the research study. The consent form outlined the purpose of the study, measures used to maintain confidentiality, and the potential risks and benefits associated with participation. If at any time the participant did not feel comfortable answering a question, they were instructed to skip and proceed to the next. The participants' interviews were linked to their consent forms using pseudonyms in order to assure confidentiality and privacy. Participant consent forms and personal data is stored in a locked box for three years in the University of North Dakota Occupational Therapy Department. The student researchers and faculty advisor are the only individuals who will have access to the data. All interview transcription files are password protected. After three years, the consent forms will be shredded and the audio-recordings destroyed.

The student researchers used a set of questions to guide the interviews to assist with prevention of biases. Member checking, where a copy of the typed transcription is provided to the participants, was used to assure accuracy of responses. Initial contact to

provide transcriptions was made through e-mail; four of the participants responded. Follow-up phone calls and e-mails were made to the remaining two participants. After no reply, a printed copy of the transcription and a letter was mailed to these two participants. One participant responded by returning the letter stating the transcription was accurate. Of the five transcriptions that were returned, only one participant made changes, and changes were primarily grammatical.

### **Data Analysis**

Upon completion of data collection, the researchers engaged in a data analysis process using the constant comparative method of data coding. Along with the constant comparative method, data triangulation was used throughout the data analysis process to ensure accuracy and trustworthiness. Triangulation was implemented through coding of all six interviews by each researcher and the research advisor. According to Strauss and Corbin (1998), there are three techniques used throughout the coding process. These are open, axial and selective coding. Appendix B presents the coding process as it occurred in this research study.

## CHAPTER IV: RESULTS

The purpose of this qualitative research was to explore occupational therapists' use of occupation-based interventions in long-term care facilities. The researchers used a grounded theory approach including personal interviews combined with constant comparative data analysis. The constant comparative method allows the researcher to gather data and constantly compare it to categories and themes that begin to emerge (Creswell, 2005). The initial step in the data analysis process, according to a constant comparative method, is a generation of codes. There are three types of coding: open, axial, and selective.

Open coding aims to “. . . uncover, name and develop concepts [within the text]” (Strauss & Corbin, 1998, p. 102). Throughout the coding process, data is divided into parts and evaluated for differences and similarities (Strauss & Corbin, 1998). The researchers began the data analysis process by open coding the three interviews they personally completed, followed by coding of the other researcher's interviews. While open coding, the researchers read through the transcriptions and recorded initial thoughts, impressions, and ideas. After interviews were coded, the researchers came together and compared codes of the six interviews. The codes generated from open coding are presented in Table 2.

ADLs	Choosing occupations for client
Integration of Cognition	Outside resources
Compensatory Techniques	Therapist's value on using OBI
Preparatory Activities	Therapist creativity
Purposeful Activities	Desire to do more OBI
IADLs	Clients personal resources
Client education	Therapist Continuing education
PAMs	Administrative support
Pain management	Access to community
Environment simulation	Shift in reimbursement requirements
Transfers	Collaboration between professions
Leisure exploration/participation	What the client needs to do
Family collaboration	Providing client with choices
Psychosocial aspects	Motivating
Medicare/Insurance guidelines	Familiar
Lack of facility resources	Meaningful
Client's knowledge of OT	Purposeful and functional
Therapist's experience	What's important to the individual
Facility expectations	Client's interest
Community transportation	Evaluate, plan and treat
Difficulty creating natural context	Cater to client's goals
Difficulty understanding OBI	Maximize client's independence
Client's motivation	
Understanding of current OT language	

To complete the axial coding process, the researchers reviewed the open codes and grouped pieces of data together based on commonalities. According to Strauss and Corbin (1998), the purpose of axial coding is to reassemble the data that was gathered during open coding and begin to create categories. Axial coding is done to “relate categories and to continue developing them in terms of their properties and dimensions . . .” (p. 230). During this step of the coding process, the researchers eliminated the codes that were only relevant to one or two participants. The categories generated from axial coding are presented in Table 3.

**Table 3. Axial Coding (Categories)**

**Focus of Current Interventions**

ADLs  
Integration of Cognition  
Compensatory Techniques  
Preparatory Activities  
Purposeful Activities  
IADLs  
Client education  
PAMs  
Pain management  
Environment simulation  
Transfers  
Leisure exploration/participation  
Psychosocial aspects

**Barriers to OBI**

Medicare/Insurance guidelines  
Lack of facility resources  
Client's knowledge of OT  
Therapist's experience  
Facility expectations  
Community transportation  
Difficulty creating natural context  
Understanding of current OT language  
Difficulty understanding OBI  
Client's motivation  
Choosing occupations for client

**OBI Characteristics**

What the client needs to do  
Providing client with choices  
Motivating  
Familiar  
Meaningful  
Purposeful and functional  
What's important to the individual  
Client's interest

**Therapist Perception of Job**

Evaluate, plan and treat  
Cater to client's goals  
Maximize client's independence  
Family Collaboration  
Therapist continuing education  
Collaboration between professions

**Facilitators of OBI**

Outside resources  
Therapist's value on using OBI  
Therapist creativity  
Desire to do more OBI  
Clients personal resources  
Administrative support  
Access to community  
Shift in reimbursement requirements

The final step in the coding process is generating themes based on the codes and categories from the data. Selective coding allows themes in the data to emerge.

Selective coding is derived from the relationship of the categories developed in axial coding (Creswell, 2005). The themes created through selective coding should be presented in a broad sense, and be relevant and applicable to all participants (Strauss & Corbin, 1998). Once themes are developed the researchers then compare themes to develop assertions. To generate themes, the researchers sought to understand

commonalities between each participant's experiences by looking at the data in a broad

sense, instead of solely looking at the codes and categories. The following three themes emerged from the data: therapist's varying degrees in understanding of occupation and occupation-based intervention, complexity of long-term care practice settings, and impact of reimbursement on provision of occupational therapy services. Each theme and supporting data is presented.

#### *Varying Degrees in Understanding of Occupation and Occupation-Based Intervention*

Therapists in long-term care demonstrated an inconsistent understanding in regards to occupation and occupation-based intervention. When asked about their understanding of occupation-based intervention, participants often struggled to clearly articulate their knowledge. Two participants appeared to understand occupation and occupation-based intervention synonymously. Wendy shared,

. . . well my understanding of occupation-based intervention is . . . people come to a session or I introduce myself as an occupational therapist and they'll be like uh I don't need a job, I'm retired. It's like . . . your occupation right now is taking care of yourself, being retired, enjoying your leisure time, you know. So whatever they need to do in their life to take care of themselves.

Jane reported her understanding as,

. . . basically for each individual what's important to them, what they were able to do prior to their injury, to what they need to be able to do to function in the community successfully. Whether that's getting back to that prior level or . . . using our skilled treatment to show them different techniques to be independent . . . I feel an individual's occupation in this setting is their ability to do their ADLs, their dressing, their toileting . . . whether it's cooking or whether there's some leisure activities they're really interested in.

Lucy shared her perception of occupation-based interventions and the positive impact those interventions have on clients. The intervention examples Lucy provided are considered preparatory or purposeful, not occupation-based, depending on the client's meaningful occupations. Although her understanding of occupation-based interventions

is inconsistent with the Occupational Therapy Practice Framework, Lucy revealed that functional and purposeful activities provide clients with success. She stated,

Actually doing something that, not so much that is related to their occupation, but that is their job now. They always say, 'oh I'm not employed anymore.' No, but your occupation now is getting dressed, making dinner, figuring out . . . getting in and out of the bathtub. . . . If you do . . . functional purposeful activities they're gonna get their return back twice as quick. . . . Anytime we give . . . a patient something that's purposeful and functional for them they're more engaged. . . . We have a little Bennett with all the little nuts and bolts and they have the colored ladders and stuff. . . . They just love those guy tasks, versus if I gave them a crossword puzzle or . . . stack the cones.

One participant portrayed a lack of confidence in her understanding of occupation-based interventions. Deb revealed,

Well . . . doing things that are . . . I have a little trouble understanding the difference between occupations and activity. But I think . . . you could look at the morning self care routine as . . . an occupation . . . Maybe the individual activity you would be putting on your sock or something. I don't know. But just something that is functional and purposeful and meaningful to the person. That they have to do in their everyday lives. Getting dressed, or their whole morning routine, meal preparation not just making an egg, but just all the safety and everything.

Deb continued to share that she felt there has been a shift in occupational therapy in regards to occupation-based interventions, and believes that occupation-based interventions are motivating for clients. Deb stated,

It's a lot more motivating for most of these people to do things that are meaningful to them . . . I've seen a range in my longevity in the field and . . . we used to do a lot more childish kinds of things with doing just pegboard stuff all the time. And it's just not motivating to people and a lot of people have difficulty with therapy to start with . . . if they see that we're doing something that actually has meaning for them they are a lot more motivated, and they'll want to work with you. And cooperate . . . because they have meaning to them and it's important to them to do the things that are functional.

Three participants' definitions of occupation-based interventions reflected client-centered practice by incorporating client's interests or meaningful activities into



interventions. Sarah shared that occupation-based interventions consists of incorporating the client's interests into therapy.

Where you're not just doing exercise to exercise. . . . Everything we do has to have a basis for where the person is headed. . . . We're focusing on what is it they're gonna need to do at the facility where they're going to, or back home or living here . . . staying here. And so, it might be an activity program and what kinds of things they're interested in and how do we get them integrated into the community here.

Two participants reflected on occupation-based interventions as being meaningful to the client. Wendy stated, “. . . It's just finding out what they like to do in their day-to-day life, their social aspect, and . . . making my treatment so that it's . . . it's meaningful to them.” Additionally, Jane shared, “. . . Occupational therapy is finding what's meaningful to the patient and using that to help with their treatment session.”

In order to articulate their understanding of occupation-based interventions, participants often provided examples of interventions used in practice. Rachel stated, “. . . the occupation-based ones that we can do most readily is obviously the self care. The toileting, the getting dressed, and stuff like that . . . the strengthening ones are more like preparatory activities.” Wendy provided examples of occupation-based interventions, but also shared that not all of the interventions she uses are occupation-based.

. . . well I guess not everything I do is occupation-based. I mean when I am doing the dumbbells or the si fit, or the theraband . . . [they aren't] necessarily occupation-based . . . it may relate to what I want the outcome to be . . . so I guess . . . it would be if I'm working with them in the kitchen . . . or in the bathroom or in the shower . . . figuring out how they're going to get in and out of their shower or their tub because . . . the way their bathroom is set up . . . dressing obviously. In my opinion, an occupation-based session [is] working on that.

Sarah demonstrated her ability to utilize clinical reasoning by sharing an example of using the therapeutic process of implementing preparatory, purposeful and occupation-based interventions. Sarah shared,

We just had a fellow who broke his elbow and he works at a daycare . . . we want him to [get] back to work. So we are working on endurance building and certainly there are exercise programs that have to go along with that [preparatory intervention] . . . as a precursor to the job. And in this case, he gets to go back to his real job. He's not ready yet, but we're playing pool [purposeful intervention] . . . In the mean time he is working on . . . kitchen kinds of things when he comes here because he has to do a certain amount of cooking [occupation-based intervention], so we work on that kind of thing. So we try to keep it occupation-based.

The theme, varying degrees in understanding of occupation and occupation-based intervention, encompasses the varying degrees of knowledge occupational therapists working in long-term care possess. The participants had inconsistent definitions of occupation-based interventions, as well as differing examples of what they considered to be occupation-based interventions in therapy.

#### *Complexity of Long-Term Care Practice Setting*

Occupational therapists working in long-term care settings provide services to clients in various levels of care, with numerous diagnoses, and wide age ranges. In a long-term care practice setting, occupational therapists work in various levels of care including inpatient, outpatient, homecare, subacute, assisted living and transitional care.

Rachel describes her facility as

One hundred and fourteen beds . . . divided into four wings. One wing is . . . considered the memory care and that is . . . the secure one . . . then there's two wings geared towards long-term residents and one wing that is considered their short-term rehab wing.

Lucy identifies the complexity of her facility by stating

Here we basically have long-term care, short-term subacute, which is now our rapid recovery, and eventually it will be 60 beds. . . . we have homecare and outpatient . . . then all the assisted living apartments are attached, there's like 200 apartments.

Jane reported working with individuals who have “. . . any type of hip or knee replacement, CVA's . . . patients that have just generalized weakness from pneumonia, COPD . . . fractures. We see just about everything.” Similarly, Deb shared “we see a variety of caseload from orthopedic to neuro, to dementia, to just various general medical and rehab . . . [conditions].” Despite the various diagnoses she encounters in the long-term care setting, Rachel shares “. . . I don't pay attention to diagnoses . . . I look at the person . . .”.

Long-term care settings typically provide services to older adults, but three participants reported working with younger individuals, as well. Sarah shared, “. . . our youngest client was . . . 5, but now our youngest client is 6 months. . . . Our oldest was I think 101. I sent someone that was 98 years old back home.” In addition, Lucy reported,

We've had a 16-year-old TBI that was here for two years. I had a 15-year-old outpatient wrist . . . radial ulnar fracture. . . . but the majority of the people are older. . . . the younger ones are more outpatients.

Lucy shared the average age as “75 to 80 . . . there are some that are 104 . . .”. The participants depicted the variety of ages occupational therapists treat within a long-term care setting.

One participant revealed the importance of having comprehensive knowledge about occupational therapy when working in long-term care. Deb stated,

. . . you can just go down the list of OT . . . I mean with this population you just are almost doing everything you even learned as a OT because there is just such a variety of who comes in here and the needs that they have.

The theme, complexity in the long-term care practice setting, demonstrates the demands that are expected of occupational therapists and the complexity of the long-term care practice setting. Occupational therapists working in long-term care may work with clients at various levels of care with a variety of diagnoses and ages, and in more than one intervention setting (i.e. outpatient clinic, residential care, home health).

#### *Impact of Reimbursement on Occupational Therapy Services*

Three participants shared that reimbursement impacts the care occupational therapists provide in long-term care. As the primary third-party payer in this setting, participants reported both negative and positive influences of Medicare reimbursement guidelines. Three participants verbalized their responsibility to follow Medicare guidelines. Deb shared,

It depends; it all gets very complicated because you're going by minutes. . . . it's all based on these rehab utilization group (RUG) categories. . . . like if it's Medicare A we might have to see them seventy minutes a day. If there's three therapies a day they may be reduced to forty five minutes a day and it can change because they don't want us to go too far over or too far under because it sounds terrible, but it all comes back to money.

Similarly, Wendy expressed the impact Medicare guidelines have on her role as an occupational therapist.

[I have to make] sure I follow my Medicare guidelines and get my minutes in, so that we can get reimbursed based on different RUG levels we have to follow. . . . [Also], making requests to insurance companies for further authorization and covering of that patient.

Having knowledge about Medicare guidelines can assist occupational therapists with understanding what treatments will be reimbursed. One participant reported that

Medicare guidelines and reimbursement regulations were found to restrict the type of intervention she can provide. Lucy stated, “Everything’s individual, with the new Medicare rules. If you do concurrent, they split the minutes in half.” In other words, when treating more than one client at the same time, the amount of billable treatment time is divided between the clients. Despite the negative impacts of reimbursement, one participant recognizes the positive influence reimbursement has on occupational therapy interventions. Wendy expressed, “. . . I think that reimbursement has probably pushed us . . . to be more occupation-based . . .”.

The theme, impact of reimbursement on occupational therapy services, encompasses the positive and negative impacts reimbursement has on the care occupational therapists provide. Occupational therapists working in long-term care recognize both enabling and inhibiting factors related to third-party reimbursement, yet understand their responsibility to follow Medicare guidelines in order to be reimbursed for services provided.

### **Assertions**

Through analysis of the data, three themes were developed that demonstrate the many factors that influence care occupational therapists provide in long-term care settings. Therapists’ knowledge, experience, and connection to academia, has an impact on their understanding and implementation of occupation-based interventions. The practice setting of long-term care has become increasing complex where therapists are expected to juggle many demands and expectations. These demands include having a vast knowledge about a variety of diagnoses and ages, and being competent in each area of practice within the long-term care setting. Lastly, third-party payer agencies restrict

the types of treatment interventions for which therapists will be reimbursed. However, this has pushed therapists to become more occupation-based with their interventions.

Through comparison of the themes, the researchers developed two assertions representative of the participant's interviews. The researchers assert the following: (1) Long-term care occupational therapists could benefit from additional knowledge regarding the application of occupation-based interventions in practice, and (2) given the complexity of long-term care, occupational therapists could benefit from strategies to overcome barriers to occupation-based intervention.

## **CHAPTER V: DISCUSSION AND RECOMMENDATIONS**

This chapter presents a summary and discussion of the results found in this study, limitations of the study, recommendations for occupational therapists working in long-term care, and recommendations for future research.

Occupational therapists working in long-term care demonstrated varying degrees in understanding of occupation and occupation-based interventions. The researchers found participant's level of current occupational therapy knowledge and language was a major contributor to the different degrees of understanding. Two participants were able to clearly define occupation, but seemed to view this definition as synonymous with occupation-based intervention. Others shared their perceptions of occupation-based intervention, but gave treatment examples, which were inconsistent with the Occupational Therapy Practice Framework's (AOTA, 2008) view of occupation-based intervention. Participants shared that clients experience increased motivation and purpose when occupation and occupation-based intervention is used in therapy. Participants' report of how functional and purposeful tasks provide clients with success and increased occupational engagement is similar to what has been reported in the literature (Youngstrom & Brown, 2005). The results of this study also indicate continued engagement in meaningful occupations has a positive impact on the life satisfaction of older adults, which was also found throughout the literature (Atwal, Owen & Davies, 2003). In addition, participants identified the significance of incorporating the client's

interests into therapy to compliment occupation-based practice. Incorporating client-centered practice into therapy can assist the occupational therapist with implementing occupation-based interventions (Chisholm, Dolhi, and Schreiber, 2004). Participants verbalized the importance and value they place on incorporating occupation-based intervention and client-centered practice, as well as, the impact these have on client success. Although participants reported value in using client-centered practice, research has shown occupational therapists working in inpatient medical settings experience the most difficulty incorporating client-centered practice (Maitra & Erway, 2006).

Occupational therapists reported many aspects, such as a variety of clientele, that contribute to the complexity of a long-term care setting. High demands are placed on occupational therapists to be competent in their knowledge and skills in order to meet the needs of clients within a long-term care setting. Participants in this study identified working with diverse clientele who have a variety of diagnoses and ages, which is inconsistent with the literature (Maitra & Erway, 2006). Unlike Chisholm, Dohli and Schreiber's (2004) findings, participants in this study did not report difficulties understanding what interventions will be reimbursed, including occupation-based intervention. The researchers of this study found facility pressures for productivity place additional demands on therapists and contribute to the complexity of the setting. Participants report they are aware of the challenges the long-term care setting imposes, but continue to love and enjoy what they do.

Reimbursement continues to change and affect the services occupational therapists provide. The results revealed participants' identification of positive and



negative effects reimbursement has on client care. One positive effect found was an increased push for more occupation-based intervention, as primary third-party payers want to see how treatment is directly related to function. Negative aspects include the obligation to meet treatment minute regulations, and the restriction in type of interventions occupational therapists can provide. This finding echoes research done by Rogers (2007), identifying reimbursement as a potential barrier to occupation-based interventions in medical settings. Regardless of its nature, reimbursement weighs heavy on occupational therapists through the challenge it poses in providing quality, competent and occupation-based interventions for clients in long-term care.

### **Limitations**

Limitations of this study include the small sample size and the experience of the researchers. The small sample size, consisting of only Minnesota occupational therapists, makes it difficult to generalize the results to all occupational therapists working in long-term care settings. The inexperience of the student researchers also poses a limitation to the study, as both researches have minimal exposure to qualitative research methods.

### **Recommendations**

The results of this study point toward two primary needs of therapists working in long-term care settings: continued education regarding contemporary practice issues and increased use of model-driven occupational therapy. Occupational therapists would benefit from further education on contemporary practice issues including occupational therapy language, occupation, occupation-based intervention, as well as strategies to overcome barriers to occupation-based practice in long-term care. Inservice presentations can provide foundational education about occupational therapy language

and occupation-based interventions for occupational therapists and other healthcare professionals. Focused study groups can also be used to provide occupational therapists with an opportunity to learn more about occupation and occupation-based intervention through discussion with peers. Study groups can enable continued clinical reasoning and development of new strategies for implementing client's meaningful occupations into therapy. Additionally, the results indicate the importance for long-term care facilities to provide education about reimbursement changes and billing guidelines. Education on these concepts will assist occupational therapists with understanding guidelines and regulations that affect practice and in turn implementation of occupation-based intervention.

Occupation-based model-driven therapy would be beneficial in assisting occupational therapists with meeting the needs of this client population, as well as aiding occupational therapists in providing client-centered care. Model-driven therapy allows the therapist to begin planning occupation-based interventions through the assessment process. During the assessment, the occupational therapist gathers information about the client's interests, values, roles and routines, as well as their abilities and deficits in occupational performance. Upon completion of the assessment process, the occupational therapist is able to collaborate with the client to create a treatment plan that addresses their wants, needs, and meaningful occupations.

The four occupational-behavioral models commonly used in occupational therapy are: the Model of Human Occupation (MOHO), Occupational Adaptation (OA), Ecology of Human Performance (EHP) and the Canadian Model of Occupational Performance and Enablement (CMOP-E). Each model has strengths and limitations for its use with

various populations and settings. When choosing a model the occupational therapist takes into consideration the client's level of functioning, cognitive capabilities, and motivation and drive to engage in therapy. These models assist the occupational therapist with creating occupation-based interventions that address the client's meaningful occupations. Additionally, an occupational-behavior model guides the therapist in adapting or modifying the treatment plan based on the clients wants and needs. Using occupational-behavioral models gives occupational therapists a blueprint for implementing occupation-based interventions in practice. The researchers have identified two occupational-behavior models most appropriate for the long-term care setting: Canadian Model of Occupational Performance and Enablement and Ecology of Human Performance.

According to the CAOT (2007), the CMOP-E focuses on two core concepts: occupation and enablement. This model outlines occupation as a basic human need and promotes the use of occupation as a medium for therapy. Enablement consists of participation, collaboration, and environmental factors that influence change and occupational performance. The CMOP-E fits the long-term care setting through directly engaging clients in meaningful occupations as a means and an end outcome of therapy (CAOT, 2007). Engaging clients in meaningful occupations can assist with recovery and meeting the client's goals. Despite the positives of the CMOP-E, this model may be difficult for some therapists to implement in therapy. This model focuses heavily on using an individual's occupations as the medium for therapy. If the facility does not have adequate resources or finances this model could be difficult to implement.

Dunn, Brown and Youngstrom (2003) describe the Ecological Model of Human Performance as emphasizing the person-environment interaction and the impact it has on occupational engagement. The EHP uses five intervention strategies to focus on the person-environment interaction: establish/restore, alter, adapt/modify, prevent and create. When using this model in a long-term care setting, occupational therapists become the agent of the environment, which enables or promotes continued occupational performance. However, placing a greater emphasis on the context and environment takes the focus off the client and the client variables that may be contributing to occupational limitations (Dunn, Brown, & Youngstrom, 2003). If the environment is adjusted to meet the patient's needs, this can enable occupational engagement. Although the use of this model could improve occupation-based practice, the EHP model may not work for all patients in the long-term care setting. Some patients may benefit more from the use of a model that focuses on the client variables that contribute to occupational limitations instead of one that focuses on the environmental context.

Despite the challenges present in implementing either of the two models, occupational therapists working in the long-term care setting would benefit from implementing model-driven therapy to enable occupation-based practice.

### **Future Research Recommendations**

Qualitative research that expands on the results of this study and incorporates a larger region and sample size is recommended to increase the strength of the findings. As a follow-up to the qualitative research, quantitative studies (i.e. survey research) are recommended to provide a numerical representation of the data to strengthen presentation of the findings. Further research could also focus on the client's point of view regarding

therapists' use of occupation in therapy. Research will provide occupational therapists with evidence supporting the use of occupation-based interventions and how they affect the care provided in long-term care.

## **APPENDICES**

**APPENDIX A**  
**Interview Questions**

## Interview Questions

The Use of Occupation-based Intervention in Long-Term Care Facilities: A Qualitative Study

**Introduction:** “I would first like to thank you for taking the time to participate in this research study. I have a list of questions that will be used to guide the interview. The interview may last anywhere from one to two hours. Before we begin, I have a consent form I would like you to read through and sign in order to give permission to use the information from this interview in the research project. Just a reminder that if you have any questions or would like a question clarified or rephrased, feel free to ask. Do you have any questions before we begin?”

**Work History:** The first set of questions will be used to get an idea of your professional work experiences.

1. Tell me a little about your professional work experience.
  - a. What kind of degree do you have?
  - b. How many years have you been practicing occupational therapy?
  - c. Have you worked as an OT at any other facility other than your current employment? If so, can you tell me a little bit about them?
2. Can you tell me a little about the facility that you currently work in?
  - a. What is your current position at this facility?
  - b. What is the main population with whom you work?
  - c. How many beds does the facility have available?
  - d. What professionals are employed here?
  - e. What are your job duties as an OT at this facility?
  - f. How long have you worked at this facility?
3. Would you share what a typical workday consist of for you?
  - a. What percentage of time do you spend in direct care?
  - b. How many patients do you typically see per day?
  - c. Do you typically provide individual or group based intervention?

**Therapeutic Interventions:** “This next set of questions will be used to gain an understanding of your use and perception of interventions you utilize in practice.”

4. What are some of the therapeutic interventions you do with your clients during therapy?
5. What is your understanding of occupation-based intervention?
  - a. Can you give some examples of when you used occupation-based interventions you use in your practice?
6. How much value do you place on using occupation-based interventions?
7. Tell me about the resources that are available at your facility to carry out occupation-based interventions.
8. Are there any barriers that hold you back from implementing occupation-based interventions? If so, could you tell me a little bit about them?
9. Is there anything else you would like to add or share?

**Closing:** “Thank you once again for taking the time to participate in this interview. My partner and I truly appreciate your involvement in this study. I would like to contact you later to have you review a typed copy of this interview to ensure accuracy of your responses. Just a reminder, all identifying information will be kept confidential



throughout the entire process. Thank you for helping us learn more about the use of occupation-based interventions in clinical practice.”

**APPENDIX B**  
**Informed Consent**

## INFORMED CONSENT

**TITLE:** *Use of Occupation-Based Interventions in Long-Term Care*

**PROJECT RESEARCHERS:** *Amy Jo Jensen, OTS, Mallory Carlson, OTS, Sonia Zimmerman, Ph D.*

**PHONE #** *(701) 777-2209*

**DEPARTMENT:** *University of North Dakota Occupational Therapy*

### STATEMENT OF RESEARCH

A person who is to participate in the research must give his or her informed consent to such participation. This consent must be based on an understanding of the nature and risks of the research. This document provides information that is important for this understanding. Research projects include only subjects who choose to take part. Please take your time in making your decision as to whether to participate. If you have questions at any time, please ask.

### WHAT IS THE PURPOSE OF THIS STUDY?

You are invited to be in a research study about occupational therapists' use of occupation-based interventions in long-term care. You have been asked to participate because you are a certified occupational therapist employed at a long-term care facility. The purpose of this research study is to generate a theory about the use of occupation-based interventions in long-term care facilities through personal interviews with occupational therapists. The student researchers hypothesize there to be limited use of occupation-based interventions with clients in long-term care. We will be studying how often occupational therapists use occupation-based interventions in order to contribute to the knowledge and evidenced-based practice of occupational therapy.

### HOW MANY PEOPLE WILL PARTICIPATE?

Approximately 6-8 people will take part in this study through the Occupational Therapy Department at the University of North Dakota.

### HOW LONG WILL I BE IN THIS STUDY?

Your participation in the study will last three months. You will need to meet with the student researcher one time at a place of your choosing to complete an interview. Each visit will take about one to two hours.

### WHAT WILL HAPPEN DURING THIS STUDY?

You will meet with the researcher to complete one personal interview. The interview will be held in a quiet, distraction free location of your choosing and take between one and two hours. A list of questions have been developed to guide the interview process. If at any time you don't feel comfortable answering a question, you may skip and proceed to the next. The interview will be audio-recorded and transcribed, word-for-word, in order to ensure accuracy of the data. Pseudonyms, or fake names, will be used when

transcribing your interview in order to ensure your confidentiality. Your interview will be analyzed with the other participants' interviews and broken into codes, themes, and categories to develop a theory. A copy of your transcribed interview will be mailed or emailed for your review in order to ensure accuracy.

#### **WHAT ARE THE RISKS OF THE STUDY?**

There are no foreseen risks for participating in this study. However, you may encounter minimal risks such as difficulties scheduling the interviews and you may feel uncomfortable answering certain questions related to personal experiences.

#### **WHAT ARE THE BENEFITS OF THIS STUDY?**

You will not benefit personally from being in this study. However, we hope that, others might benefit from this study because the results will contribute to the knowledge and evidence based practice in occupational therapy.

#### **WILL IT COST ME ANYTHING TO BE IN THIS STUDY?**

You will not have any costs for being in this research study.

#### **WILL I BE PAID FOR PARTICIPATING?**

You will not be paid for being in this research study.

#### **WHO IS FUNDING THE STUDY?**

The University of North Dakota and the research team are receiving no payments from other agencies, organizations, or companies to conduct this research study.

#### **CONFIDENTIALITY**

The records of this study will be kept private to the extent permitted by law. In any report about this study that might be published, you will not be identified. Your study record may be reviewed by Government agencies, and the University of North Dakota Institutional Review Board. Any information that is obtained in this study and that can be identified with you will remain confidential and will be disclosed only with your permission or as required by law. Confidentiality will be maintained by keeping the data records in a locked box in the University of North Dakota Occupational Therapy Department for three years. The student researchers will be the only individuals who will have access to the data. Pseudonyms, or fake names, will be used as a substitution for your name in order to ensure your confidentiality. If we write a report or article about this study, we will describe the study results in a manner so that you cannot be identified. You have a right to review your study data and audio-recordings at any time. The audio-recordings will be destroyed after three years.

#### **IS THIS STUDY VOLUNTARY?**

Your participation is voluntary. You may choose not to participate or you may discontinue your participation at any time without penalty or loss of benefits to which you are otherwise entitled. Your decision whether or not to participate will not affect your current or future relations with the University of North Dakota.

## CONTACTS AND QUESTIONS

The researchers conducting this study are Amy Jo Jensen and Mallory Carlson. You may ask any questions you have now. If you later have questions, concerns, or complaints about the research please contact Amy at 612-709-3979 or Mallory at 701-240-5430. The research advisor, Sonia Zimmerman can be contacted at 701-777-2200.

If you have questions regarding your rights as a research subject, or if you have any concerns or complaints about the research, you may contact the University of North Dakota Institutional Review Board at (701) 777-4279. Please call this number if you cannot reach research staff, or you wish to talk with someone else.

Your signature indicates that this research study has been explained to you, that your questions have been answered, and that you agree to take part in this study. You will receive a copy of this form.

Subjects Name: \_\_\_\_\_

\_\_\_\_\_  
Signature of Subject

\_\_\_\_\_  
Date

***(Optional)***

***I have discussed the above points with the subject or, where appropriate, with the subject's legally authorized representative.***

\_\_\_\_\_  
***Signature of Person Who Obtained Consent***

\_\_\_\_\_  
***Date***

## **APPENDIX C**

### **Data Analysis Summary**

**The Use of Occupation-Based Interventions in Long-Term Care:  
A Qualitative Study**

Amy Jensen, MOTS & Mallory Carlson, MOTS

Sonia Zimmerman, PhD., OTR/L, Adviser

**Research Purpose:** To explore occupational therapists' use of occupation-based interventions in long-term care facilities. The researchers used a grounded theory approach including personal interviews combined with constant comparative data analysis.

**THEM**

<i><b>Theme 1: Varying Degrees in Understanding of Occupation and Occupational-Based Intervention</b></i>	<i><b>Theme 2: Complexity of Long- Term Care Practice Setting</b></i>	<i><b>Theme 3: Impact of Reimbursement of Occupational Therapy Services</b></i>
<p>“ . . . basically for each individual what’s important to them, what they were able to do prior to their injury, to what they need to be able to do to function in the community successfully.</p> <p>I feel an individual’s occupation in this setting is their ability to do their ADLs, their dressing, their toileting . . . whether it’s cooking or whether there’s some leisure activities they’re really interested in” (Jane).</p> <p>“ . . . I have a little trouble understanding the difference between occupations and activity. . . . you could look at the morning self care routine as . . . an occupation . . . Maybe the individual activity you would be putting on your sock or something. I don’t know. . . something that is functional and purposeful and meaningful to the person. That they have to do in their everyday lives. Getting dressed, or their whole morning routine, meal preparation. . .” (Deb).</p>	<p>“Here we basically have long-term care, short-term subacute, which is now our rapid recovery, and eventually it will be 60 beds. . . . we have home care and outpatient . . . then all the assisted living apartments are attached, there’s like 200 apartments” (Lucy).</p> <p>“ . . . our youngest client was . . . 5, but now our youngest client is 6 months. . . . Our oldest was I think 101. I sent someone that was 98 years old back home” (Sarah).</p>	<p>“It depends; it all gets very complicated because you’re going by minutes. . . . it’s all based on these rehab utilization group (RUG) categories. . . . it all comes back to money” (Deb).</p> <p>“ . . . I think that reimbursement has probably pushed us to be more occupation-based . . .” (Wendy).</p>

**ASSERTIONS**

1. Long-term care occupational therapists could benefit from additional knowledge regarding the application of occupation-based interventions in practice.
2. Given the complexity of long-term care, occupational therapists could benefit from strategies to overcome barriers to occupation-based intervention.

**APPENDIX D**  
**IRB Approval Form**



**REPORT OF ACTION: EXEMPT/EXPEDITED REVIEW**  
University of North Dakota Institutional Review Board

Date: 5/19/2011 Project Number: IRB-201105-343

Principal Investigator: Jensen, Amy Jo; Carlson, Mallory

Department: Occupational Therapy

Project Title: The Use of Occupation Based Interventions in Long Term Care: A Qualitative Study

The above referenced project was reviewed by a designated member for the University's Institutional Review Board on May 25, 2011 and the following action was taken:

Project approved. **Expedited Review** Category No. 7  
Next scheduled review must be before: May 24, 2012

**Copies of the attached consent form with the IRB approval stamp dated May 25, 2011 must be used in obtaining consent for this study.**

Project approved. **Exempt Review** Category No. \_\_\_\_\_  
 This approval is valid until \_\_\_\_\_ as long as approved procedures are followed. No periodic review scheduled unless so stated in the Remarks Section.

**Copies of the attached consent form with the IRB approval stamp dated \_\_\_\_\_ must be used in obtaining consent for this study.**

Minor modifications required. The required corrections/additions must be submitted to RDC for review and approval. **This study may NOT be started UNTIL final IRB approval has been received.**

Project approval deferred. **This study may not be started until final IRB approval has been received.** (See Remarks Section for further information.)


Disapproved claim of exemption. This project requires Expedited or Full Board review. The Human Subjects Review Form must be filled out and submitted to the IRB for review.

Proposed project is not human subject research and does not require IRB review.  
 Not Research                       Not Human Subject

**PLEASE NOTE: Requested revisions for student proposals MUST include adviser's signature. All revisions MUST be highlighted.**

Education Requirements Completed. (Project cannot be started until IRB education requirements are met.)

cc: Sonia Zimmerman, Ph.D.

  
\_\_\_\_\_  
Signature of Designated IRB Member                      5-25-11  
UND's Institutional Review Board    Date

If the proposed project (clinical medical) is to be part of a research activity funded by a Federal Agency, a special assurance statement or a completed 310 Form may be required. Contact RDC to obtain the required documents.

(Revised 10/2006)

## References

- American Occupational Therapy Association (2008). Occupational therapy practice framework: Domain and process (2<sup>nd</sup> ed.) *American Journal of Occupational Therapy*, 62, 625-683.
- Atwal, A., Owen, S., & Davies, R. (2003). Struggling for occupational satisfaction: Older people in care homes. *British Journal of Occupational Therapy*, 66(3), 118-124.
- Bontje, P., Kinebanian, A., Josephsson, S., & Tamura, Y. (2004). Occupational adaptation: The experiences of older persons with physical disabilities. *American Journal of Occupational Therapy*, 58(2), 140-149.
- Canadian Association of Occupational Therapists. (2007). Core concepts of occupational therapy. In E. Townsend et. al (Eds.), *Enabling occupation: An occupational therapy perspective* (29-56). Ottawa, ON: CAOT Publications ACE.
- Chisholm, D., Dolhi, C., & Schreiber, J. (2000, January). Creating occupation-based opportunities in a medical model clinical practice setting. *OT Practice*, 5(1), 11-19.
- Chisholm, D., Dolhi, C., & Schreiber, J. (2004). Occupational therapy intervention resource manual: A guide for occupation-based practice. Clifton Park, NY: Delmar Learning.
- Christiansen, C. H., Baum, C. M., & Bass-Haugen, J. (Eds.) (2005). *Occupational therapy: Performance, participation, and well-being*. Thorofare, NJ: SLACK Inc.

- Christiansen, C. H., & Townsend, E. A. (2004). Introduction to occupation. Upper Saddle River, NJ: Pearson Education Inc.
- Colaianni, D., & Provident, I. (2010). The benefits of and challenges to the use of occupation in hand therapy. *Occupational Therapy in Health Care, 24*(2), 130-46
- Crepeau, E. B., Cohn, E. S. & Schell, B.A. (Eds.) (2003). *Willard & Spackman's occupational therapy*. Philadelphia, PA: Lippincott Williams & Wilkins.
- Creswell, J. W. (2005). Grounded theory designs. *Educational research: Planning, conducting, and evaluating quantitative and qualitative research*. (pp.395-434). Upper Saddle River, NJ: Pearson Education Inc.
- Curtin, M., & Fossey, E. (2007). Appraising the trustworthiness of qualitative studies: Guidelines for occupational therapists. *Australian Occupational Therapy Journal, 54*, 88-94.
- Day, Jennifer C. (1996). Population Projections of the United States by Age, Sex, Race, and Hispanic Origin: 1995 to 2050. *U.S. Bureau of the Census: Current Population Reports* (pp. 25- 1130). Washington, DC: U.S. Government Printing Office.
- Dickie, V. (2009). What is occupation?. In Crepeau, E. B., Cohn, E. S., Schell, B. A. (Eds.), *Willard & Spackman's occupational therapy* (pp.15-21). Philadelphia, PA: Lippincott Williams & Wilkins.
- Duncan-Myers, A. M., & Huebner, R. A. (2000). Relationship between choice and quality of life among residents in long-term-care facilities. *American Journal of Occupational Therapy, 54*(5), 504-508.

- Dunn, W., Brown, C., & Youngstrom, M. J. (2003). Ecology model of human occupation. In Kramer, P., Hinojosa, J., & Brasic-Royeen, C. (Eds.), *Perspectives in human occupation: Participation in life* (222-256). Philadelphia, PA: Lippincott William & Wilkins.
- Fleming J. M., Lucas, S.E., & Lightbody,S. (2006). Using occupation to facilitate self awareness in people who have acquired brain injury: A pilot study. *Canadian Journal of Occupational Therapy*, 73(1), 44-55.
- Hammell, K. W. (2004). Dimensions of meaning in the occupations of daily life. *Canadian Journal of Occupational Therapy*, 71(5), 296-305.
- Hartman, B. A., Miller, B. K., & Nelson, D. L. (1999). The effects of hands-on occupation versus demonstration on children's recall memory. *American Journal of Occupational Therapy*, 54(5), 477-483.
- Hasselkass, B. R. (2011). Meaning: An essential for life. *The meaning of everyday occupation* (2<sup>nd</sup> ed.). Thorofare, NJ: SLACK Inc.
- Hinojosa, J., & Kramer, P. (1997). Fundamental concepts of occupational therapy: Occupation, purposeful activity, and function (statement). *American Journal of Occupational Therapy*, 51(10), 864-866.
- Hocking, C. (2001). Implementing occupation-based assessment. *American Journal of Occupational Therapy*, 55(4), 463-469.
- Jackson, J., Carlson, M., Mandel, D., Zemke, R., & Clark, F. (1998). Occupation in lifestyle redesign: The well elderly study occupational therapy program. *American Journal of Occupational Therapy*, 52(5), 326-336.

- Jackson, J., Mendel, D. R., Zemke, R., & Clark, F. A. (2001). Promoting quality of life in elders: An occupation-based occupational therapy program. *World Federation of Occupational Therapy Bulletin*, 43, 5-12.
- Lang, E. M., Nelson, D. L., & Bush, M. A. (1992). Comparison of performance in materials-based occupation, imagery-based occupation, and rote exercise in nursing home residents. *American Journal of Occupational Therapy*, 46(7), 607-611.
- Law, M. & Mills, J. (1998). Client-centered occupational therapy. In M. Law (Ed.), *Client-centered occupational therapy* (pp. 1-18). Thorofare, NJ: SLACK Inc.
- Law, M., Baum, C., & Dunn, W. (2005). Measuring occupational performance: Supporting best practice in occupational therapy (2<sup>nd</sup> ed.) Thorofare, NJ: SLACK Inc.
- Maitra, K.K. & Erway, F. (2006). Perception of client-centered practice in occupational therapists and their clients. *American Journal of Occupational Therapy*, 60(3), 298-310.
- Merriam, S., B. (1998). What is qualitative research? *Qualitative research and case study applications in education*. (pp.20-25). San Fransisco, CA: Jossey-Bass Inc.
- Moyers, P. (1999). The guide to occupational therapy practice. *American Journal of Occupational Therapy*, 53, 247-322.
- Murphy, S. L. (2010). Centennial vision: Geriatric research. *American Journal of Occupational Therapy*, 64(1), 172-181.

- Murphy, S., Trombly, C., Tickle-Degnen, L., & Jacobs, K. (1999). The effect of keeping an end product on intrinsic motivation. *The American Journal of Occupational Therapy, 53*, 153-158.
- Nilsson, I., Bernspang, B., Fisher, A. G., Gustafson, Y., & Lofgren, B. (2007). Occupational engagement and life satisfaction in the oldest-old: The umea 85+ study. *OTJR: Occupational Participation and Health, 27*(4), 131-139.
- Pierce, D. (2001). Untangling occupation and activity: *American Journal of Occupational Therapy, 55*, 138-146.
- Pierce, D. E. (2001). Occupation by design: Dimensions, therapeutic power, and creative process. *American Journal of Occupational Therapy 55*(3), 249-259.
- Pierce, D. E. (2003). Welcome to occupation by design. *Occupation by Design: Building therapeutic power* (pp. 3-13). Philadelphia, PA: F.A. Davis Company.
- Rebeiro, K. L., & Cook, J. V. (1999). Opportunity, not prescription: An exploratory study of the experience of occupational engagement. *Canadian Journal of Occupational Therapy, 66*(4), 176-187.
- Robichaud, L., Durand, P. J., Bedard, R., & Ouellet, J. P. (2006). Quality of life indicators in long term care: Opinions of elderly residents and their families. *Canadian Journal of Occupational Therapy, 73*(4), 245-251.
- Rogers, S. (2007, August). Occupation based intervention in medical-based settings. *OT Practice, 11*-14.
- Schindler, V. P. (2010). A client-centered, occupation-based occupational therapy programme for adults with psychiatric diagnoses. *Occupational TherapyInternational, 17*, 105-111.

- Schwartz, K. B. (2003). The history of occupational therapy. In Crepeau, E. B., Cohn, E. S., Schell, B. A. (Eds.), *Willard & Spackman's occupational therapy* (pp. 5-13). Philadelphia, PA: Lippincott Williams & Wilkins.
- Stern, P.N. (1980). Grounded theory methodology: Its uses and processes. *Image*, 12, 20-23.
- Strauss, A. & Corbin, J. (1998). Introduction. *Basics of qualitative research: Techniques and procedures for developing grounded theory*. (pp.3-14). Thousand Oaks, CA: SAGE Publications, Inc.
- Trombly, C. (1995). Occupation: Purposefulness and meaningfulness as therapeutic mechanisms. *The American Journal of Occupational Therapy*, 49, 960-972.
- Trombly, C. A. (2008). Occupation: Philosophy and concepts. In Radomski, M. V., & Trombly, C. A. (Eds.) *Occupational therapy for physical dysfunction* (6<sup>th</sup> ed.). Baltimore, MD: Lippincott Williams & Wilkins.
- U.S. Department of Commerce. (2011). Age and sex composition: 2011. *U.S Census Bureau*. Retrieved on September 16, 2011 from:  
<http://www.census.gov/prod/cen2010/briefs/c2010br-03.pdf>.
- US Department of Health and Human Services (2008). National clearinghouse for long term care information. Retrieved from:  
[http://www.longtermcare.gov/LTC/Main\\_Site/index.aspx](http://www.longtermcare.gov/LTC/Main_Site/index.aspx).
- Ward, K., Mitchell, J., & Price, P. (2007). Occupation-based practice and its relationship to social and occupational participation in adults with spinal cord injury. *OTJR: Occupation, Participation and Health*, 27(4), 149-156.

Waite, A. (2011, July). Well elderly study 2: Evidence that occupational therapy helps prevent decline in seniors. *OT Practice*, 8-10.

Weinblatt, N., & Avrech-Bar, M. (2001). Postmodernism and its application to the field of occupational therapy. *Canadian Journal of Occupational Therapy*, 68, 164-170.

Youngstrom, M. J., & Brown, C. (2005). *Categories and principles of interventions*. In C. H. Christiansen, C. M. Baum, and J. Bass-Haugen (Eds.), *Occupational therapy: Performance, participation, and well-being* (3<sup>rd</sup> ed.) Thorofare, NJ:SLACK Inc.