EXPLORING OLDER ADULT HOME SAFETY EDUCATION WITH PHOTO ELICITATION VIA TELEHEALTH

A DISSERTATION
SUBMITTED TO THE GRADUATE SCHOOL
IN PARTIAL FULFILLMENT OF THE REQUIREMENTS
FOR THE DEGREE
DOCTOR OF EDUCATION

BY
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BALL STATE UNIVERSITY
MUNCIE, INDIANA
JULY, 2014
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A multiple case study design was used for this inquiry. Photo elicitation was used with six participants, well older adults, to draw out their stories and experiences related to home safety. Each participant was engaged in three "rounds" of photography based on provided prompts and an interview followed each round. Interviews took place online through VSee, a HIPPA-approved web-based video conference program. These interviews were seen as a version of telehealth—with an educational focus. In the analysis of the interview transcripts and other data collected (e.g., home health safety instrument, SAFER-HOME, v. 3, used during initial and final in-person meetings with the participants, researcher journals), I endeavored to understand whether or not narrative learning, a form of adult learning, was facilitated. So, in essence, I wanted to know if the photo elicitation process—with participant-produced photos—was an antecedent to narrative learning. Additionally, I endeavored to understand if and how this process can be an effective tool for education-based telehealth services, which could benefit health care professionals such as occupational therapists and their clients. Findings include the value of photos to support narrative learning, the value of narrative learning related to home safety education, the use of friend narratives by women, collaborative
cognition, and confidence. Procedural findings (i.e., findings related to the methods employed) include the abstract versus concrete nature of a photo assignment, challenges with older adults and technology, and the challenge of building rapport in a web-based format. Overall, participants showed small changes in their SAFER-HOME, v. 3 scores indicating they made a small number of environmental modifications. Findings were examined in light of the existing literature and indicate that within a wellness context, home safety education for older adults can be delivered effectively via telehealth when using photo elicitation as an antecedent to narrative learning.
Acknowledgements

At the end of this journey it is important to recognize those who have been instrumental in the finished product. I must thank my parents Frank and Phyllis Breeden for their support; I have never known a day when they did not love and believe in me. As I engaged in my own narrative learning I found that the wisest counsel I had was my Mother, who understands my career as an occupational therapist as an educator and who always helped to bring my wandering mind back to the study objectives. I must also thank my sister Julie Breeden and my sweetheart Jim Prosch who kept me off target when I needed it. Special thanks are given to my faculty colleagues at the University of Indianapolis who shared ideas, reviewed my bad writing, helped recruit participants, while never letting on how tired they must have been about hearing of my study. Additional thanks go to committee members Dr. Michelle Glowacki-Dudka, Dr. Kathy Segrist, Dr. Renee Twibell. Dr. Joe Armstrong and Dr. Roy Weaver, my early dissertation chairs, were instrumental in helping me put together a good team and gave wise counsel as I tried to blend my professional lives into a meaningful project. Ultimately their best advice was in the recommendation of Dr. Amanda Latz as my committee chair. She brought abundant expertise to my project, as well as the enthusiasm and commitment I needed to stay on track. Finally, I must thank my participants. These six individuals were smart, funny, engaging people who made the data collection portion of this research a joy. During this era of unprecedented growth in the population of older adults it is easy to focus on the social, economic, and health related problems. It is important to remember that older adults are healthy, hardworking, kind, confident individuals who continue to contribute to their families and our society well into their ninth decade. I was so fortunate to be a part of their lives for a short while.
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Chapter 1: Introduction

Throughout the nearly 100-year history of occupational therapy (OT), services have been provided in a variety of settings and formats. These settings vary based on cultural changes, funding priorities, and client needs. Since the creation of Medicare in 1965, services have traditionally been delivered in an institutional, often hospital-based setting. At the present time, according to the workforce survey by the American Occupational Therapy Association (AOTA, 2006), most occupational therapists, approximately 56.9%, continue to work in a direct style of service delivery where a therapist provides one-to-one treatment in a medical setting. Given the current trend in health care to move toward shorter hospital stays, fewer individual sessions, and recent health care reform legislation, occupational therapists provide services in community-based settings for individuals, organizations, and populations. These community-based clients can also receive services through telehealth, using web-based video.

As practitioners move into new service delivery models, how they educate clients becomes a challenging but important part of a successful outcome. Community-based practice can have a greater focus on health promotion, prevention and wellness, rather than the restorative focus that follows illness. In a rehabilitation clinic, individual patient education in occupational therapy is often guided by an understanding of activity analysis, adaptation, and the structuring of tasks that provide the best challenge for patients. This method provides a client with many opportunities for learning through rehearsal. One service delivery model, telehealth, is challenging practitioners to create a different type of client education, one that does not lend itself to hands on assistance or experience. Educating clients remotely using web-based video technology, or telehealth, may include a variety of client-centered educational strategies, yet there is a lack of available evidence to support these strategies and the related learning theories in
practice. Client education needs to move beyond OTs’ current concept of education through practice, and engage in teaching methods that meet the needs of a variety of learners in new practice settings. Concepts from adult learning can help health care practitioners in these emerging areas improve the quality of their client education and functional outcomes.

**Problem Statement**

As an occupational therapist, I have been frustrated by what some consider a lack of compliance when educating clients on home modifications and environmental adaptations to ensure home safety. Examining older adult attitudes related to home modifications, Kruse et al. (2012) found that “Most participants expressed that they were unwilling to undertake home modifications to reduce their risk of falling, including minor changes” (p. 113). How people function within their homes is a complex, contextually driven experience that is influenced by generations of tradition, family patterns, economic challenges, and a spiritual connection to space and cherished things. The traditional home assessment, which involves an occupational therapist, measuring tape and samples of bathroom equipment for adaptation, is likely not an effective intervention strategy for community dwelling, well, older adults. Kruse et al. (2012) found this to be true as their participants used deflection, denial, and avoidance to discount their therapist recommendations regarding fall prevention. There can be a great deal of resistance from clients who receive recommendations from health care practitioners about their homes. Healthy individuals may struggle to see a reason to change their environment or habits when they have been safe until this point. Well-educated practitioners can feel offended when their well-intentioned recommendations are discounted. Helping older adults remain safely in their homes in anticipation of their changing function requires they balance past functioning and prepare a realistic view of their future. Clemson, Cusick, and Fozzard (1999) stated, “the
ownership of ideas and exerting control within the context of an individual’s environment and life experiences strongly influences acceptance and follow through of recommendations” (p. 539). Additionally, these researchers recommend “joint decision making and negotiation” (Clemson et al., 1999, p. 539) as being more likely to change home environments. Helping OTs understand how to educate their clients in a way that allows the clients to express their spiritual sense of space and maintain a sense of control over their daily lives will likely improve compliance; this understanding can be enhanced by an awareness of adult learning theories and how to help clients construct their own plan for aging in place.

**Purpose**

The purpose of this study was to explore the experience of a home safety education program for older adults, grounded in narrative learning, and delivered electronically using digital photographs and web-based video technology. A secondary purpose was to continue to build upon the knowledge of how occupational therapists provide client education as an intervention strategy in the emerging practice setting of telehealth. It was my intention, through this multi-case study, to examine the experiences of educating older adults about home safety via web-based video technology using photo elicitation and narrative learning. As indicated in the literature review, education related research within the field of occupational therapy is focused on how occupational therapy students learn, and how patient education occurs in a traditional clinical practice. During this study, I experienced different challenges than occupational therapists find in face-to-face client education. A focus on adult learning theories can contribute to the quality of education based OT intervention in the emerging practice area of telehealth. This inquiry is foundational to developing web-based or remote educational interventions for
telehealth services in occupational therapy. I used a multi-case approach defined by Stake (2006) as,

>a special effort to examine something having lots of cases, parts, or members. We study those parts, perhaps its students, its committees, its projects, or manifestations in diverse settings. The cases have their stories to tell, and some of them are included in the multicase report, but the official interest is in the collection of these cases or in the phenomenon exhibited in those cases. (p. vi)

I met with clients over five sessions; two were face-to-face and three sessions were via web-based video service. Initially I met with clients in their home and completed informed consent documentation (Appendix B), pre-test Safety Assessment of Function and the Environment for Rehabilitation-Health Outcome Measurement and Evaluation, version 3 (SAFER-HOME v. 3) (Appendix A), Demographic Data Collection Form (Appendix L) and made sure they were prepared to use the video conference technology. At the end of this initial face-to-face session, I left the participant with a folder including the Participant Information Sheet (Appendix I) and the VSee Brochure (Appendix M). Following the initial session I used weekly photo assignments and video conference sessions to engage in three interviews about home and community safety. The fifth visit occurred again in the client’s home and included a post-test measure of the SAFER-HOME v. 3 (Appendix A). The following qualitative methods were used to examine this educational experience: photo elicitation (Harper, 2002) and client narratives (Clark, 2010) to focus on home safety. Quantitative data was collected on each case using the SAFER-HOME v. 3 (Appendix A); this established outcome measure provided directional, not statistical information for the six individuals who participated in the study.
Research Questions

It was my intention, through this multi-case study, to examine the experience of educating older adults about home safety via web-based video technology using photo elicitation and narrative learning to support client education. The central research questions were as follows:

- What is the process of home safety education with older adults as it is delivered in a web-based synchronous format?
- How does the use of narrative learning theory enhanced by photo elicitation facilitate older adults’ home safety?

Subsequent questions included:

- What are the participant experiences with managing home safety issues?
- Are there demographic characteristics of older adults that can influence home safety decision-making? If so, what are they, and how are they influential?
- Does the combination of personal narrative and digital photographs impact home safety as scored by the Safety Assessment of Function and the Environment for Rehabilitation-Health Outcome Measurement and Evaluation, version 3 (SAFER-HOME v. 3) (Appendix A)?
- How does the use of personal narrative and digital photography impact an individual’s awareness of safety challenges in their home?
- How does narrative learning and photo elicitation support existing theories of change when addressing home safety?
- What insights about safety issues in the home and community are gained through photo elicitation and personal narrative?
This study may provide insights that could better inform and benefit therapists and their clients during telehealth interventions. Participants in this study signed the informed consent document (Appendix B) as well as a media release form (Appendix C) allowing the publication of the participants’ digital photographs.

**Figure 1.** Study elements presented in a flow chart style to provide visual representation of processes.

During the first of five sessions (first and fifth occurring in a face-to-face format) I administered the pre-test SAFER-HOME v. 3 Assessment (Appendix A) and verified the web-based video communication with the client using VSee software. The participant received instruction on taking and transmitting photographs via email. Participants met with me via web-based video over three weekly sessions to review the home safety topics related to the weekly photo assignment. During the final face-to-face session I re-administered the SAFER-HOME, v.
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Appendix A) to provide an individual measure of change for each case. The steps taken during the course of the study are diagrammed in Figure 1 above. Qualitative data collected from the transcription of the three video conference conversation/interviews, was coded, analyzed for themes within and across cases (Creswell, 2013), and examined in light of the current literature in adult education and occupational therapy. The digital images taken by the participants were used as an antecedent to the conversation/interview and were considered and sorted as a part of the analysis. A researcher’s reflexivity journal (Creswell, 2013) was used to record my thoughts, concerns, recollections and ideas regarding the themes as well as the research process. These multiple perspectives were used to support the trustworthiness (Lincoln & Guba, 1985) of data. The duration of the study for each of the participants was approximately five weeks for a total of three to four contact hours per participant.

**Positionality Statement**

Examination of my positionality must begin with a view of my social landscape. I am a middle aged, Midwestern American white female. I was raised middle class in a two working-parent household that valued education. I have enjoyed an extended family that is predominantly female with good longevity. Additionally, my professional landscape includes preparation as an occupational therapist, which has taught me that people live in many ways, some ways that seem very different from my own. As an OT, my goal is not to clarify the right or wrong way to manage daily living, but to help an individual problem solve and adapt current strategies to meet their needs. It is because of these beliefs that I have found a good fit in adult education, as it is a field that values the life experiences and reasoning abilities of the adult learner. Certainly all of my life experiences have influenced the direction of this research, but I have also learned in my family as well as my clinical practice, that individuals have a strong need to exert control over
their home and work environments. Sound medical and educational advice will often receive push back from the recipient if it is delivered in a manner that makes a person feel that they are being instructed. In keeping with adult learning theories, being available to facilitate learning by discussing previous challenges, problem solving, and working toward solutions is, in my view, a more effective way to make long term change. In considering my own positionality, I have encountered participants who hold a different perspective, one that highly values professional expertise and simply wanted specific recommendations about their home safety. In this scenario, while not a good example of narrative learning through photo elicitation, I did my best to facilitate more independent learning but believe that this experience can still add a great deal of value to others who will use educational strategies when delivering services via telehealth.

Assumptions

My inquiry has assumptions and limitations that are noted here. A conceptual framework of pragmatism (Creswell, 2013) underlies this research. This interpretive framework allows a “focus on the outcomes of the research—the actions, situations, and consequences of inquiry—rather than antecedent conditions (as in postpositivism)” (Creswell, 2013, p. 28). While concepts of home safety may seem universal, individual ways of living are influenced by culture, socioeconomic status, and individual physical capabilities. Given these many influences, helping individuals improve their understanding of home safety required a flexible view of what worked for that person. The ontological assumption for this multi-case study was as follows: each individual participant is likely to have a different view of the educational experience, and the individual’s reality is what will support effective learning. It is also understood that participant perspectives vary from my own. To fully understand these different views I relied on both inductive and deductive reasoning, through the use of a home safety measure as well as
participant quotes from individual sessions to give voice to the participant perspective. Multiple meetings helped me develop strong rapport and the perspective necessary to accurately represent the participant experience in this process. This study also included certain assumptions based on my experience as a practicing therapist. These assumptions include the notion that able-bodied older adults may be less aware of home safety challenges than those who have been ill or disabled, and the assumption that occupational therapy is a profession well suited to deliver this type of service.

The concept of “reflexivity” (Creswell, 2013, p. 216) was addressed using a reflexivity journal. I created journal entries following sessions with participants, and the journal was reviewed throughout data analysis as a way to make subjectivity and positionality apparent in this study. This journal supported what Creswell (2013) stated as “self-awareness and self-exposure” (p. 257) and “holding the researcher accountable to the standards of knowing” (p. 257). As this study is primarily qualitative and inductive in nature, it was anticipated that new research questions would emerge throughout the process of data collection, and the data collection methods may need to be adjusted to capture this unexpected information. Creswell (2003) noted that “Qualitative research is emergent rather than tightly prefigured. Several aspects emerge during a qualitative study. The research questions may change and be refined as the inquirer learns what to ask and to whom it should be asked” (p. 181). I anticipated there would be an adjustment to the questions asked during the interviews and to my research questions. It was also possible that an immediate safety issue would need to be addressed, and take priority over the data collection plan. This could include safety or health issues that I believed put the participant at risk, such as abusive living arrangements or poor sanitary
conditions that would immediately impact the participants’ health and well-being. Safety issues such as these did not require action in this study.

**Limitations**

Regarding limitations, it is not possible to generalize the results of a small group of older adults to a greater population. There was no control group that allowed me to tie a change in home safety scores solely to this narrative learning experience. This study had practice relevance, in that developing a detailed examination of how the use of electronic education services could impact home safety awareness is valuable for occupational therapists that develop educational interventions using web-based services. Second, as I am both an occupational therapy practitioner and an educator in the field of occupational therapy, my personal focus on education may be more developed than a typical OT practitioner and positive results may be more difficult for an entry level practitioner to achieve if they have not obtained additional course work focused on educational theory and methods. This study and its dissemination offer practitioners an educational strategy that can be used to improve the quality of home safety education in the delivery of telehealth services. Finally, for many older adults emerging technologies may be a great challenge. This study, in limiting participants to those who already use updated versions of personal computers and software, did not offer educational solutions for older adults who were less tech-savvy. The benefits of this study may grow over time as our population experiences a generational shift and computer use becomes more common with tomorrow’s older adults.

**Delimitations**

Boundaries of this research study are influenced by the Indiana Occupational Therapy licensure requirements, which allowed me as an occupational therapist to practice in a
community-based setting without a physician’s referral but limit that practice to issues not typically addressed within the medical setting or those covered by a third-party payer such as Medicare (Indiana Professional Licensing Agency, 2011). Adhering to state regulation, participants in this study did not include individuals who were recovering from an illness or were in the acute or post-acute phase of an illness or disability. Additionally, participants resided in Indiana as practice is limited to states where a practitioner holds a license and service delivery is considered to be the location (within their home) where the individual receives the services. Services delivered in this study were education-based, focused on home and community safety, and the participants were well, community dwelling older adults.

This study included the requirement that the participant have access to a home computer that would support the use of VSee, a free software program that will insure privacy and Health Insurance Portability and Accountability Act (HIPAA) compliance (VSee, 2013). As a part of “purposeful sampling,” (Creswell, 2013, p. 299) older adults who do not have basic computer skills were excluded from this study to allow a focus on narrative learning theory regarding home safety. This focus on narrative learning could have been over-whelmed if older adults focused their energies on learning strategies to manage technology rather than home safety.

**Significance**

This research is significant as it contributes to understandings of adult educational theories as a part of occupational therapy service delivery and enhances an occupational therapist’s ability to deliver home safety services via telehealth. I am hopeful that this focus on teaching and learning will contribute to an improvement in service delivery, as well as shed light on the importance of adult education and a learner-centered focus in this setting. Moreover, no study of this kind has been carried out previously. As such, this work is both groundbreaking
and trendsetting. Additional inquiries within this vein are necessary, especially considering the aforementioned contexts of older adults and health care services.

**Definition of Terms**

The following terms and their definitions are needed as a reference for readers.

**Activity** - The term activity describes a general class of human actions that is goal directed (AOTA, 2008).

**Activities of Daily Living (ADL)** – “Activities that are oriented toward taking care of one’s own body (adapted from Rogers & Holm, 1994, pp. 181–202). ADL is also referred to as Basic Activities of Daily Living (BADL) and personal activities of daily living (PADL)” (AOTA, 2008, p. 631).

**Occupational Adaptation** – “The process through which the person and the occupational environment interact when the person is faced with an occupational challenge calling for an occupational response reflecting an experience of relative mastery” (Schkade & Schultz, 1992, p. 831).

**Client** – A person, group, program, population, organization, or community for whom the occupational therapy practitioner is providing services (Moyers & Dale, 2007). “The entity that receives occupational therapy services” (AOTA, 2002, p. 614).

**Occupational performance** – “The act of doing and accomplishing a selected activity or occupation that results from the dynamic transaction among the client, the context, and the activity. Improving or enabling skills and patterns in occupational performance leads to engagement in occupations (Adapted in part from Law, Cooper, Strong, Stewart, Rigby & Letts 1996)” (AOTA, 2008, p. 672-73).
Occupational Therapy (OT) – “The therapeutic use of everyday life activities (i.e., occupations) with individuals or groups for the purpose of facilitating participation in roles and situations in home, school, workplace, community, and other settings” (Moyers & Dale, 2007, p. 3).

Outcome Measure - “A measure taken at various intervals of treatment that indicates the success of a provider’s care” (Ellenberg, 1996, p. 435).

Patient – “The actual term used for clients receiving occupational therapy varies among practice settings and delivery models. For example, when working in a hospital, the person might be referred to as a patient” (AOTA, 2008, p. 652).

Quality of life – “A person’s dynamic appraisal of his or her life satisfactions (perceptions of progress toward one’s goals), self-concept (the composite of beliefs and feelings about oneself), health and functioning (including health status, self-care capabilities, and role competence), and socioeconomic factors (e.g., vocation, education, income) (adapted from Radomski, 1995; Zhan, 1992),” (as cited in AOTA, 2008, p. 674).

Wellness – “The condition of being in good health, including the appreciation and the enjoyment of health. Wellness is more than a lack of disease symptoms; it is a state of mental and physical, balance and fitness” (Taber’s Dictionary, 1997, p. 2110).

Summary

This research study is exploratory in nature. Photo elicitation was used to explore the possibility of narrative learning within telehealth practice. Community dwelling older adults are at greater risk for falls and other household injuries because of the changes that accompany aging. Yet it is difficult for older adults to accept therapist recommendations about home modifications, and often challenging for individuals who have been injured to turn patient education into action. If home safety education is to be effectively delivered using electronic
means, then it is important that therapists consider new approaches to that education.

Understanding the individual client experience does not lend itself to quantitative study; rather, through this multi-case research study, I used qualitative methods to examine the experience of client education via web-based video. The literature review that follows is a synthesis of relevant information on patient education practices, learning theories, older adults and home safety, photo elicitation, as well as occupational therapy practice in telehealth.
Chapter Two: Literature Review

This review of literature provides information on home safety needs of community dwelling older adults, fall prevention, educational theories in occupational therapy, adult learning theories, narrative learning and the use of photo elicitation. Additionally, literature is included on change theories and background on the use of telehealth.

Home Safety Needs of Older Adults

In every discussion of learning theory it is important to consider how the educational concepts will be used by the learner. One of the many challenges in occupational therapy is what has been identified as a lack of compliance by older adults with regard to home safety. This is especially challenging when working with community dwelling, independent older adults who are functioning well, except their range of performance is decreasing. An example of this range of performance is that as a young person one might have the ability to run a mile or two with little preparation. If running endurance is not maintained over the years, the ability to complete a one or two mile run diminishes. This decline may not be noticed if a person has no need to run two miles; one may realize this decline only if there is a need to run and catch a train or if a person is being chased. Over time our unused capacity for moving, thinking, breathing and functioning seems to decrease to only the level regularly used. In that same manner, older adults are often moving around their homes and community unaware of their gradually decreasing capacity. Often, it is during rare jobs such as taking a box out of the attic or carrying in bags of salt for the water softener when older adults become aware that their capacity has declined. For this reason, older adults can believe they are doing fine and may make choices that can impact their safety and future abilities.
Fall Prevention

Of greatest concern when working with community dwelling older adults is the physical and psychological injury that accompanies a fall. Injury from a fall can slow occupational performance at home as well as on the worksite. The physical pain and emotional stress created by recovery from a sprain or fracture can tax even the most loving relationships, and for older adults a fall related injury may limit their social engagement, community access, and possibly their life expectancy. The Centers for Disease Control and Prevention (CDC) (2010) reported that $19 billion was spent on treating the elderly for the adverse effects of falls in 2000. It is estimated that this equates to $30 billion in 2010 dollars (CDC, 2010). Relevant to occupational therapy is that these direct costs do not capture the picture of the effect of these falls as individuals lose time on the job, are unable to perform household activities and have a decreased quality of life (CDC, 2010). Rubenstein and Josephson (2002) reported that each year between 30 and 60% of community dwelling older adults experience a fall, and about half of these individuals experience multiple falls. Additionally, Fleming (2002), identified falls as the leading cause of death among people 65 years and older. Unintentional injuries are the fifth leading cause of death among older adults and falls account for two-thirds of the unintentional injury deaths (Desai, Zhang, & Hennessy, 1999). Falls do not need to occur from a great height, down stairs, or over an obstacle to injure a person. As we age and our bone density decreases, we become more fragile; in our later years it is possible that even an unintended, hard sit can result in a fracture. Understanding this helps us to realize that injury stemming from a fall of any kind can result in costly medical care and a loss of life’s most valuable commodity, time.

The definition of a fall seems to vary according to institutions; however, a common element seems to be unintentionally coming to the ground, floor, or other lower level (Tinetti,
Baker, Dutcher, Vincent, & Rozett, 1997). Effective interventions to prevent future falls assume falls are not the result of random accidents but are the result of the presence of numerous risk factors and a compromised medical condition (Tinetti et al., 1997). One clinical strategy that therapists use when working with individuals who have fallen is to ask the patient to recreate the fall. This helps the persons analyze what has happened and can provide the foundation for the future decisions that they will make regarding their treatment and home safety. This process allows the client to use narrative learning to examine their safety issue. Clark (2010) stated “we learn from telling stories. When we hear, we are the receiver; when we tell, we are the actor, the one putting all the details together and making the experience coherent for ourselves and for others” (p. 6). Knowing that for older adults a fall can be a life threatening experience at worst, and a life interrupting experience at best, it is essential to help community dwelling older adults examine the world where they live and use that understanding to improve their home safety.

This should happen for the same reason that it may happen in a hospital setting, because the foundation of their future safety begins with an awareness of their capacity and the hazards around them. Rubenstein and Josephson (2002) stated, “So-called accidents, or falls stemming from environmental hazards, compromise the largest fall cause category, accounting for 25% to 45% in most series” (p. 146). Because it is so challenging for the health care practitioner to break down the wall of defense that is put forward with statements such as, “I’m doing fine,” asking these individuals to tell their own stories about what a safe environment looks like as well as sharing the experiences of their accidents and injuries can promote learning. Using photo elicitation to promote these narratives will help the therapist guide home safety education toward issues that the older adult has identified.
Educational Theory

The Philosophy of OT Education stated “Occupational therapy educators use active learning that engages the learner in a collaborative process that builds on prior knowledge and experience and integrates professional academic knowledge, experiential learning, clinical reasoning, and self-reflection” (Haynes & Jones, 2007, p. 678). According to the OT Practice Framework:

The OT education process emphasizes continuing critical inquiry in order that OTs and occupational therapy assistants (OTAs) be well prepared to function in the dynamic environments of a diverse and multicultural society, using the power of occupation as the primary method of evaluation, intervention, and health promotion. (AOTA, 2008, p. 640)

These very broad descriptions related to education within the Philosophy of OT Education and the OT Practice Framework indicate a need for a greater focus on the specifics of client education. This study, with a focus on how therapists educate their clients to improve safe occupational performance in the home, is an important contribution to knowledge in the fields of occupational therapy and adult education.

Patient education in occupational therapy. Patient education is an oft-cited intervention strategy by OTs in clinical practice (Dahlin-Ivanoff, Sonn, & Svensson, 2002; Schemm & Gitlin, 1998; Sharry, McKenna, & Tooth, 2002), yet there is little literature about specific education theories that therapists use to structure this type of practice. Neistadt (1996) reviewed concepts based on information processing theory and its application to an occupational therapists’ work with older adults. Focusing daily skill training through the lens of an information processing framework requires “the learner must have sensory reception, brain processing, and motor behavior for either movement or communication” (Neistadt, 1996, p. 21).
Within an information processing framework, learning occurs at three levels, association learning, representational learning and abstract learning. Understanding a client’s ability to process in each of these levels will determine what type of intervention will be designed for that client.

Occupational therapists consider these levels as they design activities for individual clients knowing that association learners will be capable of a near transfer of information (activities with only one or two differences in surface characteristics), representational learners will be able to use far transfer of information (activities that are conceptually similar and may have only one surface characteristic in common) and abstract learners may be able to make a very far transfer of their learning (the spontaneous application of learning) (Toglia, 1991, p. 508). These concepts are important when working with client’s with cognitive challenges such as traumatic brain injury. A therapist must know if he or she is working at the level of association, as a client at this level may be able to make a cup of instant coffee if all of the equipment and set up is the same as their home environment, yet if that individual is asked to make coffee in a coffee maker those skills will not transfer. In this way, specific skills are developed, and learning is advanced by encouraging clients to the next level of skill.

Vygotsky (1978) identified a “zone of proximal development” and stated “the actual development level characterizes mental development retrospectively, while the zone of proximal development characterizes mental development prospectively” (pp. 86-87). This is an educational construct known to OT practitioners, and is represented by the gap between a learner’s independent performance of the task and the dependence on others to perform the task on his or her behalf (Chaiklin, 2003). This educational construct is known well to occupational therapists as it provides the foundation for the concept of the “just right challenge” (Rogers,
1982, p. 712) that is used to appropriately challenge our clients toward the next achievable level of functioning.

More recent to occupational therapy literature, Greber, Ziviani, and Rodger (2007) discussed the development of a Four Quadrant Model of Facilitated Learning (4QM). These authors identified the process of patient education as “enabling task mastery and predominantly involves the therapist acting as a learning facilitator” (Greber et al., 2007, p. 188). This model groups learning strategies into clusters based on the learner needs that they serve. These learning strategies are aligned along two intersecting continua, one being the directness of the strategy and the second is the source of initiation. The 4QM occupational therapy based model offers a way to structure patient education experiences in a task driven way that focuses on a variety of patient capabilities; unlike the previous multi-contextual approach by Toglia (1991) that has a more specific focus on the brain injury population. While practicing occupational therapists understand the value of engaging their clients in experiential learning, very little occupational therapy research has examined other types of learner centered educational strategies or how to prepare OT practitioners to deliver effective client education in emerging practice areas.

Delivering client education in a wellness setting often requires a combination of types of media to deliver lesson content. For this content to be effective it should be based on the needs of the learners. Group presenters may use electronic methods such as videos or PowerPoint®. Handouts are often developed that the program participants can read and review at a later date. Griffin, McKenna, and Tooth (2006) found that this type of material is not prepared based on the needs of the client. The authors describe a quantitative study where most of the reading materials provided to occupational therapy clients were written at a ninth to 10th grade level, and
most of the patient reading comprehension assessments indicated that these clients read at a seventh to eighth grade level (Griffin et al., 2006, pp. 74-75). This study did have limitations: persons who agreed to complete the study may have self-selected because they felt they could do the task. 158 of the initial 214 declined to complete the comprehension portion of the assessment so the estimates of reading and comprehension tests are likely to be biased upwards. (pp. 75-76)

These limitations indicate how difficult it is for a well-designed study related to literacy to yield significant results. Despite these limitations, this study brought to light the challenges with transmitting information when a well-educated clinician prepares materials without considering the preparedness of the learner. This can be a common challenge when creating handouts and tip sheets for OT clients. This study identified several assessment tools to help clinicians determine the reading abilities of their clients as well as the level of challenge provided by the handouts. This lends support to the idea that there is a tremendous difference between providing information, and client learning.

**Adult learning theories.** Adult learning theories offer several unique concepts that are relevant for client education, yet these are not found in the occupational therapy literature. Educational theories such as transformative learning, experiential learning, and andragogy offer occupational therapists a foundation for delivering effective client education in an adult setting.

**Transformative learning.** Transformational learning is a helpful lens when one attempts to understand the experience of patients in occupational therapy as disabling injury or illness changes their lives. Individuals in the traditional health care setting can be so overwhelmed by their health experience that they are initially unable to apply new knowledge. Mezirow (1997) described transformative learning as “the process of effecting change in a frame of reference” (p.
5). A frame of reference is a “coherent body of experience-associations, concepts, values, feelings, conditioned responses that defines a person’s world” (Mezirow, 1997, p. 5). It is likely that developing a shift toward a new frame of reference is delayed as an individual recovers from an injury or illness as they focus their efforts on restoring their past ways of living. These frames of reference, according to Mezirow (1997), allow us to “set our line of action” (p. 5), which allows us to function more automatically.

Mezirow (2000) stated, “transformative learning is a way of problem solving by defining a problem or redefining or reframing the problem” (p. 19). He further stated that “we often become critically reflective of our assumptions or those of others and arrive at a transformative insight, but we need to justify our new perspective through discourse” (Mezirow, 2000, p. 19).

Mezirow (2000) stated,

Central to the goal of adult education in democratic societies is the process of helping learners become more aware of the context of their problematic understandings and beliefs, more critically reflective on their assumptions and those of others, more fully and freely engaged in discourse, and more effective in taking action on their reflective judgments. (p. 30)

Merriam (2004), not to negate transformative learning, but to recognize that transformation is not an overnight process said,

although transformative learning appears to lead to a more mature, more autonomous, more ‘developed’ level of thinking, it might also be argued that to be able to engage in the process in the first place requires a certain level of development and in particular, cognitive development. (p. 61)

Many clients who seek out occupational therapy services are not initially ready to make
necessary changes, rather they are trying to recapture what they have lost, but their past ways of living have been lost. This is what transformational theory considers a disorienting dilemma. This dilemma often takes many months of grieving, managing success and failure, before it is resolved. Transformational learning theory lends itself well to group learning and this type of experience can be seen in the dynamics of a diagnosis specific support group as individuals rely on member experiences to understand and integrate the challenges and joys that come with a new life path. Mezirow (2000) defined learning as “the process of using a prior interpretation to construe a new or revised interpretation of the meaning of one’s experience in order to guide future action” (p. 5). Additionally, transformational learning can occur at different rates; it may happen slowly and incrementally, gradually changing our frames of reference, or it can be sudden and dramatic (Merriam, Caffarella, & Baumgartner, 2007).

There are challenges with the application of transformational learning theory in occupational therapy. So often the individual therapy focuses on how to function during daily tasks with the new limitations. Given the pace expected by funding sources, many patients are not ready to accept the new paradigm of living that they are working toward because they are still holding onto their previous paradigm of living. So they listen, take in the information, and agree to practice many of the new techniques to accomplish the tasks. But they have not internalized the awareness of their reality that only comes with time. They believe that the skills they are using are ones that they will only need temporarily; until things return to normal. For these reasons transformational learning theories may not be beneficial for clients who are new to their illness or disability and may better serve clients who are beginning to accept their new ways of living. Instead, they may be most relevant after clients have returned to their new lives and started the process of adapting.
Experiential learning. Illeris (2007) and Jarvis (2009) developed experiential adult learning theories that ask us to consider a variety of dimensions that can impact the adult learner in an educational setting. Merriam et al. (2007) noted that “Illeris’s theory focuses less on how learning intersects with life and more on the learning process” (p. 96). This experiential learning theory identifies three dimensions of learning, “the content dimension of knowledge” “the incentive dimension of emotion” and “the social dimension of interaction” all influenced by a “societally situated context” (Illeris, 2007, pp. 87-88). The content dimension includes knowledge and skills while the incentive dimension of emotion includes feelings and motivation (Illeris, 2007). Finally the content dimension focuses on our context of learning and the interaction with others in the learning community that shapes our learning (Illeris, 2007). Illeris (2002) as cited in Merriam, also identifies the learning process as occurring in a series of steps: first is perception where the learner takes in information via his or her senses; second is transmission where someone else “passes on information” (Merriam et al., 2007, p. 97) to the learner; third is experience, which can include both previous processes but involves the actions of the learner in some way that allows the learner to “benefit from the interaction” (Merriam et al., 2007, p. 98) with the first two processes; fourth is imitation as a learner tries to replicate or “model another’s actions” (Merriam et al., 2007, p. 98) and finally “participation in which the learner is engaged in a goal directed activity, possibly working with others in a community of practice” (Merriam et al., 2007, p. 98).

In this study, it was important to appreciate that all experiences happen in context, and that context can be very influential in the success of a client’s ability to adapt and learn new processes. Hospital-based occupational therapists go to great lengths to simulate the home environment based on the individual’s description, and when that person has developed their
abilities and are discharged they quickly find that home has become a more challenging place. The hospital-based simulation of home often falls short of the reality of home-based practice. This can turn a joyful homecoming into a very disappointing experience. This is an example of the “content dimension of knowledge,” the “incentive dimension of emotion” (Illeris, 2007, pp. 87-88) shows as the individual comes to the realization that the home environment is no longer a place of safety and comfort, but a place of challenge that needs to be overcome. Yet another reminder that life is different.

Jarvis’s (2003) model focuses on an individual’s experience in life and seems to exclude concepts such as rote or repetitive learning. Learning seems to begin with the notion of “disjuncture,” (Merriam et al., 2007, p. 100) which occurs when a learner is unable to cope with a situation and an individual is suddenly aware that they do not know how to react (Merriam et al., 2007). At this point in time an individual needs to plan out a new or different response, this “inability to cope” is, according to Jarvis, “at the heart of all learning” (Merriam et al., 2007, p.100). Experiential theorists in adult learning theories fit well within the paradigm of occupational therapy. Mary Reilly (1962) gave a keynote lecture where she stated that “Man through the use of his hands, as they are energized by mind and will, can influence the state of his own health” (p. 2). Since that time, occupational therapists have understood that how an individual experiences and masters the world with their hands is a core part of health and well-being. For occupational therapists, experiential learning is also a central reason for our successful outcomes. It is understood that while different theories of learning can be effective in a variety of settings, if an individual is to truly develop expertise then they need to practice their skill set in a safe space with achievable objectives that demonstrate a growing level of
competence. It is when an individual is able to accomplish a task that they take ownership of their work and the identity that comes with accomplishment.

**Andragogy.** In addition to transformational learning, and experiential learning theories, Malcolm Knowles built upon the concept of andragogy that is focused on traits of the adult learner in comparison to pedagogy that focuses on how children learn. Knowles (1984) offered five assumptions about the adult learner, these included:

1) Regarding the concept of the learner: The learner is self-directing, 2) Regarding the role of the learner’s experience: The andragogical model assumes that adults enter into an educational activity with both a greater volume and a different quality of experience from youth, 3) Regarding readiness to learn: The andragogical model assumes that adults become ready to learn when they experience a need to know or do something in order to perform more effectively in some aspect of their lives, 4) Regarding orientation to learning: Because adults are motivated to learn after they experience a need in their life situation, they enter an educational activity with a life-centered, task-centered or problem-centered orientation to learning, and 5) Regarding motivation to learn: the more potent motivators are internal–self-esteem, recognition, better quality of life, greater-self-confidence, self-actualization and the like. (pp. 9-12)

Chan (2010) suggested, “Adult learners need more than passive transfer of knowledge from one person. Instead, they need to be involved actively in the learning process to construct their own knowledge, make sense of the learning, and apply what is learned” (p. 33). These concepts offer a good fit between the use of andragogy and patient education in occupational therapy. Kaufman (2003) reminds that andragogy is not really a theory but a set of recommendations. Malcolm
Knowles (1984) offered an andragogical process design with seven elements on teaching independent, self-directed learners. These include:

- climate setting, involving learners in mutual planning,
- diagnosing their own needs for learning,
- involving learners in formulating their learning objectives,
- involving learners in designing learning plans,
- helping learners carry out their learning plans,
- and involving learners in evaluating their learning.

(p. 14-18)

These elements are all valuable in working with occupational therapy clients, as they support patient centered treatment and will improve functional outcomes as they encourage individuals to apply strategies that they are learning in therapy to their daily lives. Finally, the notion of “helping learners evaluate their own learning to develop critical reflection” (Kaufman, 2003, p. 213) can support the transfer of learning into other areas of life.

Awareness of adult learning theories can support occupational therapy as clinicians move forward into community-based practice. Working with individuals on wellness or prevention issues that are tied to how they function within their community can be well supported with andragogical concepts. Individuals can meet, share their experiences, and discuss strategies for health maintenance such as meal planning, and exercise and activity. There are even opportunities for spiritual growth and artistic expression that can influence health and are more likely to be acted upon when group experience and accountability facilitate engagement.

Occupational therapists understand how to help individuals through coaching and practice and how to create that just right challenge that can help a person develop skills. Adult learning theories can provide the foundation for learning in a group of people who possess a broader skill set by creating a space that values individual experience. These concepts can support effective
service delivery in wellness and health promotion, or community practice outside of the traditional medical model.

**Narrative learning.** The use of a personal narrative is one way people reason and make meaning out of an event. Storytelling is a time-honored art in human cultures. Long before television gave us the man on the street interview, humans have told their stories. Parents told stories to their children, fishermen told tales of their catch, and hunters painted pictures of the hunt on cave walls. Through the process of telling our story we reason about cause and effect. Learning via narrative is also an integral part of adult learning theory; Lindeman (1989) offered, “Adult education is a process through which learners become aware of significant experience. Recognition of significance leads to evaluation. Meanings accompany experience when we know what is happening and what importance the event includes for our personalities” (p. 109). Through the process of organizing our thoughts and crafting the story of our experience we evaluate the process and assign meaning. It is also important to understand that while the intention of narrative learning may be to educate the listener, the likelihood is that the process of telling the story provides an educational experience for the narrator.

Schank and Berman (2006) examined story-centered curriculum in schools as a way to place students in the “real life world of working professionals” (p. 220). These authors note how much of the educational process is comprised of stories and yet most of us are not able to retain the stories we hear. They stated:

It is rare that we learn from others’ stories, but stories play a key role in our day to day conversation. Why do we tell stories if others will not remember them? The answer is that we like to hear ourselves talk, and actually, we learn from hearing ourselves talk. So
we (pretend to) listen to others to get them to listen to us. We are not consciously pretending, but we also are not really gaining much from what we hear. (p. 220)

Schank and Berman (2006) report that we do benefit from other stories, but only when they are told “just in time”—likely when we are experiencing something similar and that information is most relevant to our lives. Based on their recommendations, if learning from the stories of others is to be effective they must be remembered, the listener needs to care about the story and it needs to make you question what you knew and revisit that previous way of thinking.

To help understand why narrative learning is effective, Clark and Rossiter (2008) said, “Narrative learning falls under the larger category of constructivist learning theory which understands learning as construction of meaning from experience. The fundamental principles of narrative underlie this type of learning because the meaning construction is done narratively” (p. 63). This learning occurs because of the processes that individuals must go through to organize their thinking, highlight the relevant points of the experience and organize those relevant points into a narrative. This process helps to both solidify the experience in their mind and to mentally construct a perspective of the event that creates the meaning. This is foundational to adult learning and is intertwined with the use of photo elicitation, as well as Freire’s (2008) teaching for critical consciousness. As we listen to individuals tell their story, even if that story is told through images, we witness learning in real time as we share that experience with the narrator. We share the refinement of the reasoning, the creation of the meaning and the processing that happens as the narrator tells of their experience.

Literature exists to tie the use of digital photographs to narrative learning as an online educational strategy as well. Perry (2006) used photographic images as a part of an online teaching strategy with graduate students. Online learning is certainly a more extensive
environment than the older adult participants in this study may be comfortable with, but Perry (2006) noted that the use of photographic images improved the depth of the discussion topic and the level of analytical thinking as well as improved the human presence and connection in a virtual space.

Personal narratives are a way to structure and make meaning of our daily lives and can facilitate a transformative and critically reflective understanding of those experiences (Clark, 2010). It is because of the personal experience behind the narrative that individuals are open to this transformation. Photo elicitation, in support of that personal narrative, promotes this process as it empowers the individual behind the lens. This may be a result of the value that our culture places on a camera as accurately documenting an event or it may be the physical act of producing something worthwhile, but the use of photo elicitation in support of narrative learning could help individuals examine their own home safety and meet an important need. In the right hands, the combination of photography and narrative learning can be a part of an educational strategy that keeps older adults safe in their homes as long as possible.

Change Theory

Considering the use of photo elicitation in support of narrative learning as a method for home safety education is only one aspect of this approach. One must also structure a learning experience with an understanding of how people make changes in their lives. The following is a review of three health behavior models: the Theory of Reasoned Action, (Ajzen, & Fishbein, 1980) the Transtheoretical Approach (Prochaska, Redding, & Evers, 2002), and the Health Belief Model, often referred to as the Stages of Change Model (Janz, Champion, & Strecher, 2002, p. 46). The fourth theory, Occupational Adaption (Schkade & Schultz, 1992) is also relevant to this study, as it offers insight into how people adapt their behaviors over a lifetime to maintain their
sense of self-efficacy as they participate in daily activities. For some individuals in this study, it is important to guide their learning with a sense of how other people make changes to their behaviors; for others, understanding how they have already adapted to life’s changes can offer insight into both their strategy and willingness to make changes.

**Theory of reasoned action.** The Theory of Reasoned Action (TRA), initially introduced in 1967 by Martin Fishbein, was developed as a systematic way of predicting human behavior. Ajzen and Fishbein (1980) stated that “human beings are usually quite rational and make systematic use of the information available to them” (p. 5). This belief opposes behavioral psychology beliefs that were well established in the early 1960s. Fundamental to the TRA is the perspective, “that people use the information available to them in a reasonable manner to arrive at their decisions” (Ajzen & Fishbein, 1980, p. 244). The authors believe that when people behave incorrectly it is because they have either “bad or incomplete information” (Ajzen & Fishbein, 1980, p. 244). The authors identify two types of beliefs. One is behavioral and includes their attitude toward their belief; the second is normative, which is more subjective and deals with the influence of society. An individual will weigh these two concepts and make a decision about the likelihood of a good outcome; the individual will then carry out their intended action (Ajzen & Fishbein, 1980, p. 245). The TRA is tied to social learning theories and moves away from a pure version of behavioral psychology that sees an individual’s actions based in external rewards. “Stimulus-response theories focused more on the notion of external rewards and their frequency as guiding action,” but the TRA identified “attitude and social norms as being influential” (Ajzen & Fishbein, 1980, p. 67). Ajzen and Fishbein (1980) cautioned against looking at only a few beliefs. They recommended considering a person’s entire belief structure, as “other beliefs may be negating the effects of another part of the belief structure” (Ajzen &
Fishbein, 1980, p. 94). This model is not used in stages as the following models, rather the authors recommend addressing all aspects simultaneously when working within this framework. This model is relevant to this study because of its humanistic approach and its belief that individuals will make good decisions when they are given the opportunity to reason through their experiences and problem solve new solutions.

**Transtheoretical approach.** Prochaska, Redding, and Evers (2002) used a transtheoretical approach when examining how people change. The transtheoretical approach was created by examining how individuals in psychoanalysis have made successful life changes, rather than focusing on a specific method of psychoanalysis. Crossing theoretical ideologies within the field of psychology, Prochaska et al. (2002) stated, “no therapy is any more successful than the change strategies that determined, persistent, and hardworking individuals develop for themselves” (p. 21). The process of change is categorized into six stages, “precontemplation, contemplation, preparation, action, maintenance and termination,” with progress through each stage “greatly improving the chances that you will take effective action on your problem” (Prochaska, Norcross, & DiClemente, 1994, p. 39). These stages occur in a linear fashion with individuals and groups. First is the precontemplation stage, and people at this stage usually have “no intention of changing their behavior, and typically deny having a problem” (Prochaska et al., 1994, p. 40). Next is the contemplation stage, in this stage “people acknowledge that they have a problem and begin to think seriously about solving it” (Prochaska et al., 1994, pp. 41-42). The third stage is preparation and it is here that people are planning to take action within the very next month, and are “making the final adjustments before they begin to change their behavior” (Prochaska et al., 1994, p. 43). In the action stage people most “overtly modify their behavior and their surroundings;” (Prochaska et al., 1994, pp. 44-45) in this stage behaviors are
observable. The final stage is maintenance when a person “works to consolidate the gains attained during the previous stages and struggles to prevent a relapse” (Prochaska et al., 1994, p. 45).

In addition to the concepts above, Prochaska et al. (2002) offered five critical assumptions for transtheoretical change theory:

- No single theory can account for all of the complexities of behavior change.
- Behavior change is a process that unfolds over time through a sequence of stages.
- Stages are both stable and open to change just as chronic behavioral risk factors are both stable and open to change.
- The majority of at-risk populations are not prepared for action, and will not be served by traditional action-oriented prevention programs.
- Specific processes and principles of change should be applied at specific stages if progress through the stages is to occur. (p. 104)

While the transtheoretical model is well researched, it is most often used with public health initiatives such as cancer screenings, obesity management, and smoking cessation. This model is in current favor but the participants began the study at a stage where they were ready to act on their behaviors. This model would better serve a lengthier process of change than this study addressed.

**Health belief model.** The Health Belief Model (HBM) was initially developed in the 1950s by the Public Health Service to explain the failure of people to take part in health prevention measures (Janz, Champion, & Strecher, 2002, p. 46). During this time programs were established to situate mobile X-ray units in neighborhoods to encourage tuberculosis screenings yet people in the community were not taking advantage of these services. The HBM is a value-
expectancy theory, and is defined as, “the individual’s estimate of personal susceptibility to and severity of an illness and the likelihood of being able to reduce that threat through personal action” (Janz et al., 2002, p.46). The HBM includes related concepts that are defined as:

- perceived susceptibility: which refers to one’s subjective perception of the risk of contracting a health condition,
- perceived severity: which is one’s belief of how serious a condition and its consequences,
- perceived benefits-which are one’s belief in the efficacy of the advised action to reduce risk or the impact of the issue,
- perceived barriers-which include one’s belief about the tangible and psychological coasts of the advised action,
- cues to action-which include strategies to activate one’s readiness, and
- self-efficacy-one’s confidence in one’s ability to take action. (Janz et al., 2002, p. 49)

The TRA, Transtheoretical, and Health Belief Models are change models that can be used to structure treatment across health related disciplines. Occupational Adaptation is a framework used in occupational therapy to offer insight into how people adjust their daily functioning based on individual and environmental changes.

**Occupational adaptation.** Occupational adaptation is a theoretical framework developed by occupational therapy faculty at Texas Woman’s University. The initial publication was authored by Schkade and Schultz (1992). Occupational adaptation, as it is used in the field of occupational therapy, describes a lifelong process that humans experience as they engage in their daily activities and occupations while meeting ever-changing environmental demands with
ever-changing personal capabilities. The initial overarching assumptions are “occupation provides the means by which human beings adapt to changing needs and conditions, and the desire to participate in occupation is the intrinsic motivational force leading to adaptation” (Schkade & Schultz, 1992, p. 829). It is also important to understand that the authors see occupational adaptation as “normative process that is most pronounced in periods of transition, both large and small” (Schkade & Schultz, 1992, pp. 829-830). Further explained as “the greater the adaptive transitional needs, the greater the importance of the adaption process, and the greater the likelihood that the process will be disrupted” (Schkade & Schultz, 1992, pp. 829-830).

These concepts are relevant to the present study and were most evident as participants discussed some of the prevention strategies they used following an accident. If an individual shows the ability to produce an adaptive response they may reflect on the reasons for that fall, then make changes to the environment where that fall occurred, or make modifications to their routines, or exercise to improve agility. These responses may seem simple, yet an individual who is working toward these solutions often use a complex system of processes that include a response, evaluation of that response, integration of a new concept followed by the generation of an adaptive response instead of simple trial and error (Schkade & Schultz, 1992).

Three elements are present within the Occupational Adaptation Framework. These include the person, the environment, and the interaction of the person and the environment and each element is equally important, allowing a holistic view of the process (Schkade & Schultz, 1992). Constants that are a part of this framework include the idea that the person has a desire for mastery as they engage in their occupations; and that the environment creates a demand for mastery at the same time. Where these constants intersect one will find a press for mastery that
influences the occupational response (Schkade & Schultz, 1992). As individuals evaluate their performance they form an opinion about their relative mastery. Schkade and Schultz (1992) defined this as “the extent to which the person experiences the occupational response as efficient (use of time and energy), effective (production of the desired result), and satisfying to self and society” (p. 835). Based on the experience of relative mastery an individual will begin to prepare an adaptive response to their performance based on their perceived relative mastery. In the earlier example, if the older adult begins taking a T’ai chi class and experiences another fall, this method may not remain in favor. The older adult may decide that it is more efficient to do daily stretches each morning or eliminate loose rugs.

This adaptive response evaluation process has many characteristics, but ultimately as an individual engages in activities “one of three states of function is reinforced as a result: occupational adaptation, homeostasis, or occupational dysadaptation” (Schkade & Schultz, 1992, p. 835). If an older adult is making ineffective or inefficient adaptations and is unable to safely access areas of his or her home that would be considered dysadaptation, making no changes and continuing to fall is homeostasis, and finally, if the individual implements a change that allows him or her to prevent future falls this would be considered a successful adaptation.

Each of these theoretical models could be an important foundation for a home safety educational program, each having its own strengths and weaknesses. Given the individual, rather than population, focus it was probable that the Health Belief Model and Occupational Adaptation would have offered the best structure for this learning experience. Both of these theories recognize that the values, beliefs and past experiences of the individual provide the foundation for change, but it is also important to recognize that within these theories learning is considered self-directed and based on a belief that individuals are knowledgeable and capable of making
good decisions. Ideally, an individual who makes positive changes and has improved the safety of their home will have a better foundation for their ability to accurately assess their performance and make changes in other areas of their life and in years to come.

Photography

Participant-generated digital photography was employed as an antecedent to participant’s home safety narrative learning. The photographs, used as an archival record, allowed participants to share not only a visual image representing the safety challenge but to provide a basis for the description of their experience.

Photovoice. Caroline Wang and Mary Ann Burris (1994) used photography as an educational and advocacy tool to inform public policy. Wang and Burris (1994) worked with Chinese women in rural areas to create “documentation of their everyday lives as an educational tool to record and to reflect their needs, promote dialogue, encourage action, and inform policy” (p. 171). Later termed photovoice this project allowed the lives of these peasant farmers to be more accurately portrayed to policy makers as well as develop solutions to their individual challenges. Wang and Burris (1994) stated that, “Photo-novella is a participatory process that integrates empowerment education, feminist theory, and documentary photography” (pp. 171-72). This article is foundational to the use of photovoice as an adult education strategy because it values the individual meanings of an experience and encourages those who live an experience to express their perspective and share ideas on solutions and needed support.

Wang and Pies (2004) used photovoice as an advocacy tool to examine community health programs. Jurkowski (2008) studied program development for individuals with intellectual development challenges using photovoice; and Ambrose-Gallagher, Gretebeck, Robinson, Torres, Murphy, and Martyn (2010) utilized photovoice to examine accessibility issues for
community dwelling African American adults. Photography is a valuable tool to give voice to the lived experiences of people who may be marginalized by traditional power structures. But while it is apparent that an individual may be able to use photography to convey their experiences in a more dramatic way than verbal understanding, it can also be used as an educational strategy. To understand the use of photography as an educational strategy, one should consider photography as a part of narrative learning. In the same way that an individual can create change by describing an experience to those in power, one could use photography as a way to develop reflection and depth during an interview or when sharing a story. This process, photo elicitation, is useful because a photo can help a person recall details about an experience as well as represent meaning.

As an educational tool, Carlson, Engebretson, and Chamberlain (2006) described a photovoice project that examined the walkability issues in a community of African American seniors. This community-based project moved participants in stages toward community engagement through a social change theory of critical consciousness. Carlson et al. (2006) described this as a progression of consciousness from passive adaptation, to emotional engagement, to cognitive awakening toward intention to act. Initial discussions focused on the need for change but a fundamental distrust of the community and others. Telling their stories to others allowed the participants to question the status quo that leads to a greater understanding of their social reality and eventually began to discuss possible solutions to their community challenges (Carlson et al., 2006). This emotional engagement and collective introspection lead to a group that recognizes responsibility for change. This is a different educational experience from that of Wang and Burris in the Chinese villages that used photovoice to communicate the needs to those in power. Carlson et al. (2006) found that through the use of photography the
participants, guided by Freirean process of engagement, critical reflection and a movement toward action, were emotionally energized toward “new levels of individual and collective responsibility and participation” (p. 838). As a result of this photovoice project, the authors reports that the photographs and storytelling “facilitated a social process that lead to critical consciousness” (Carlson et al., 2006, p. 850). This process of growing critical consciousness included “a shifting of cultural norms, from dependency to interdependency, and has pragmatic utility for community-based practice and research” (Carlson et al., 2006, pp. 850-51).

Latz (2012) discussed the unintended results of a study using photovoice to elicit critical consciousness that resulted in reflective consciousness building in community college students. The author argued that “bifurcated” (Latz, 2012, p. 50) outcomes are possible using participant-generated photographs in research and that in addition to critical consciousness, suggested that photographs can elicit reflective consciousness in research participants. Latz (2012) noted: “Photovoice for reflective consciousness may be used as a tool for inquiry as well as personal development” (p. 50). This article is relevant to the current study in that I asked participants to use reflective consciousness, elicited by the photographs, to develop their understanding of home and community safety. Latz (2012) used the concept of self-authorship and the work of Baxter Magolda and King (2007) to move the participants from a description of what took place, toward a focus on why they interpreted an event the way that they did. This researcher recommended “interviewers should move the participants beyond what was in the photo to why they took the photo” (Latz, 2012, p. 58).

Photovoice elicitation. Harper (2002) defined photo elicitation as “the simple idea of inserting a photograph into a research interview” (p 13). Harper recognized that it was first identified by researcher John Collier in 1957 from Cornell University, and notes that,
There is the need described in all qualitative methods books, of bridging gaps between the worlds of the researcher and the researched. Photo elicitation may overcome the difficulties posed by in-depth interviewing because it is anchored in an image that is understood, at least in part, by both parties, photography can bridge the gap between researcher and participant. (p. 20)

Harper (2002) continued, “photo elicitation mines deeper shafts into a different part of human consciousness than do words-alone interviews” (pp. 22-23). “Breaking frames” (Harper, 2002, p. 20) is a term that means the photograph seems to make the participant shift away from their initial perspective. Harper initially used photographs of farming to elicit interviews from farmers. These photos were similar to much of the available media related to farming and the photo’s elicited little deep reflection. He transitioned to historical aerial photos of farms which elicited more discussion of the evolution of farming in the community. Harper also found that when taking photos from an unusual view, by changing the angle or zooming in on specific features then he was able to elicit new discussion and new perspectives. The goal of breaking the frame is “that photographs may lead an individual to a new view of their social existence” (Harper, 2002, p. 21).

Collier and Collier (1986) described taking notes during a traditional interview as something that would “block conversation” (p. 106), additionally the authors described the use of a tape recorder as something that would “bring all conversation to a stop” (p. 106). Collier and Collier (1986) were supportive of the use of photographs, in that using them seemed to focus all discussion toward the photograph and that neither note taking nor recording seemed to bother participants as all of the conversation centered on the photo instead of the participant. Collier and Collier stated on the initial photographic interviews from 1957 “in this case making notes
was totally ignored, probably because of the triangular relationship in which all questions were
directed at the photographic content, not at the informants” (p. 106). Additionally Collier and
Collier (1986) stated:

Photographs sharpen the memory and give the interview an immediate character of
realistic reconstruction. The informant is back on his fishing vessel, working out in the
woods or carrying through on a skilled craft. The projective opportunity of the
photographs offers a gratifying sense of self-expression as the informant is able to
explain and identify content and educate the interviewer with his wisdom. (p. 106)

One reason that photo elicitation could support both reflective and critical reasoning
skills is that examining a photo allows for a perspective on a point in time from which the
photographer is removed. This allows the research participant/photographer to more focus on
the meaning of the photograph as they discuss that event from the past. Allowing the researcher
to reflect on a situation from a more objective, even safe point in time can support critical
reflection. This process uses photographs to encourage a deeper level of discussion during
interviews (Collier & Collier, 1986). This type of reflection encourages meaning and builds
reasoning abilities. It is the created meaning that develops from the discussion of the photograph
that seems to solidify the experience in our base of knowledge. Discussing the use of
photography in nursing literature, Enzman Hagedorn (1996) stated,

A new and sensitized awareness of the human health experience is achieved when
viewing the photograph as a source of visual data. With photography, many dimensions
of observation and knowledge evolve about human experience. Photographs can reveal
vital information about the human condition that other methods may not. (p. 526)
Researchers in many fields have used photo elicitation as a part of qualitative research. Within social science research Van Auken, Frisvoll, and Stewart (2010), stated that photo elicitation does three things “the photographs it generates provide the stimuli for ‘deep’ interviews; it can produce different types of information than other social science techniques; and it addresses concerns about power relations between researcher and subject” (p. 374). These researchers cautioned against the risk of “researcher and informant fatigue” (Van Auken, et al., 2010 p. 386) noting that they experienced some challenges based on overzealous photographers with one interview lasting nearly four hours. Additionally the authors note that it is also a concern if the photographic part of the project seems to require too much work. This may have led to a few of the participants taking few or no photographs.

Epstein, Stevens, McKeever, and Baruchel, (2006) integrated the photos into the interview with a focus on Harper’s (2002) notion of “breaking the frame” (p. 20). Harper (2002) recommended that photos be presented from an “unusual angle” (p. 21) (zoom in on an object or pan out) to allow participants to explore a new view of their social world (Epstein et al., 2006). This could allow the participants to see a different view of “their social world” (Epstein et al., 2006, p. 5). These authors also discussed “pretesting the photos” (p. 5), as this could be another way of determining that the photos taken by the researcher would break the frame or provoke response (Epstein et al., 2006). Epstein et al., (2006) identify that pilot testing the photos when researcher driven can influence the formatting of the questions. It is also advised that “Paying attention to the settings of the interviews was also an important way of breaking the frame, because individuals might feel more comfortable to speak in some places than in others” (Epstein et al., 2006, p.7). Epstein et al., (2006) conducted interviews of children who were in the hospital and children who were at home. They found that many of the hospital based
 Interviews were shorter and some questions were omitted due to care considerations. Interviews that were conducted at home were longer and the researchers allowed the participants to select the location of the interview.

**Telehealth**

Telehealth is not a new concept in many areas of healthcare. A variety of disciplines have used different forms of remote contact or follow up with patients for many years including physicians, nurses, and psychologists. Telemedicine is also in use by the Veterans Administration for service delivery across disciplines. Telehealth, the preferred term by the American Occupational Therapy Association, is not a typical area of practice but with the recent passage of the Affordable Care Act this type of service delivery is becoming an option for many clients in areas where occupational therapy services are not readily available.

**Emerging practice.** Telehealth is the current terminology to describe the delivery of occupational therapy services to clients remotely. Numerous terms such as telerehabilitation, telemedicine, and teletherapy have been used over the last several decades but the “American Occupational Therapy Association (AOTA) defines telehealth (the current preference of terminology) as the application of evaluative, consultative, preventative, and therapeutic services delivered through telecommunication and information technologies” (AOTA, 2013, p. 1). Telehealth service delivery model, it is hoped, will “lead to improved access to care and ameliorate the impact of personnel shortages in underserved areas” (AOTA, 2013, p. 1). It is of primary importance that practitioners are “responsible for ensuring their individual competence in the areas in which they provide services” (p. 4). Additionally, it is important to consider the needs of the individual client and give “careful consideration about whether evaluation or intervention through a telehealth service delivery model will best meet the client’s needs and is
the most appropriate method of providing services given the client’s situation” (AOTA, 2013, p. 4). It is also important to consider that telehealth, in its many forms, is not a new construct. Telemedicine practice is used in psychiatry, and physicians have provided follow up care and used telephone services to change dosage levels with implanted medication devices. This type of service delivery has existing parameters that guide past practice, but given the quickly changing availability of web-based technologies, allied health practitioners are recognizing the need for this type of service and want to support this type of practice delivery with research.

**Indiana occupational therapy practice.** Based on Indiana Occupational Therapy Committee: Laws and Regulations (2011), occupational therapy services typically occur within the medical model of practice; but services can be delivered in a community based setting without a referral from a physician. This scenario already exists within school system practice under this same statute, where a referral may come from many educational sources, but practice is delivered with a focus on student functioning in the classroom rather than a focus on health. While no mention of telehealth practice is in the state statute, this research study will deliver education based services to community dwelling well older adults and will not focus on any type of illness or disability remediation. This is the type of practice for which this exception was developed.

**Practice ethics.** As occupational therapy practitioners consider moving into a new type of service delivery, it is important to remember that the ethics of practice, as outlined by the AOTA Ethical Guidelines (2010), offered an existing framework that is relevant in this new area. AOTA (2013) asserted that “the same ethical and professional standards that apply to in-person delivery of occupational therapy services also apply to the delivery of services by means of telehealth technology” (p. 4). According to Cason, Richardson, Jacobs, and Slater (2013), there
is really no difference in what occupational therapists do in telehealth, the interventions are the same, only the method of communication is different (AOTA conference presentation, April, 26, 2013). From this perspective ethical decision making should be the same as the decisions made during face-to-face interventions. Making sure that your clients have a clear expectation of what you are able to provide in terms of intervention and billing appropriately ensures the ethical standard of veracity; taking care to make sure that the location where the client is located and any individuals who are assisting them creates a safe and appropriate context supports nonmaleficence; and establishing that telehealth service delivery is the best type of service for that particular client insure beneficence. It is additionally vital that a client’s autonomy and confidentiality be respected, and as a part of this ethical standard, I used software that meets privacy standards for telehealth service delivery and adhered to principles of human subjects’ protection required by Ball State University’s Institutional Review Board (IRB).

Summary

The literature indicates there is an abundant amount of information that examines how people learn—specifically how adults learn. This information is important for health care providers to consider as they provide services in a variety of settings. Learning is both an individual and a social experience and while health care providers identify education as a common intervention, less attention is paid to how their clients learn in various contexts. For occupational therapy practitioners, expanding practice into telehealth is an exciting prospect, as it offers the opportunity to deliver services to those who, because of resources or distance, are struggling to access services. As occupational therapists move into this emerging area, it is important to understand all of the tools that are available and how these tools will influence their client’s health and well-being. These therapists would benefit from an understanding of adult
learning theories as well as how these theories can be a positive part of service delivery. In this study photo elicitation as a part of the older adult’s personal narrative, could provide a transformative learning experience. Combined, these tools could create a learning experience that individuals create from their own lives that will be less threatening and more productive than the traditional medical model of patient education.
Chapter Three: Methods

Methodology

Frameworks. The epistemology used in this research was subjectivism; Crotty (1998) stated “in subjectivism meaning is created out of nothing” (p. 9). He also noted, “In subjectivism meaning does not come out of an interplay between subject and object but is imposed on the object by the subject” (1998, p. 9). This orientation to knowledge respects the belief that older adults have an intimate understanding of their home and how they function within their home environment. Their perspective and past safety challenges are the foundation of building their knowledge and improving their home safety. My theoretical perspective is interpretivism and my philosophical approach is phenomenology (Creswell, 2013). Within this multiple case study, I believe these are compatible concepts as an understanding of the participant experiences and how they have interpreted them in their lives can offer insight into their learning. My interpretation of their learning can be used to guide the educational experiences of other older adults. Schwandt (2007) described the use of qualitative research to develop understanding and stated,

Interpretivism is an approach to studying social life that accord a central place to Verstehen as a method of the human sciences, that assume that the meaning of human action is inherent in that action and that the task of the inquirer is to unearth that meaning. (p. 160)

Crotty (1998), in describing the interpretivist approach, recognized that

A positivist approach would follow the methods of the natural sciences and, by way of allegedly value-free, detached observation, seek to identify universal features of humanhood, society and history that offer explanation and hence control predictability.
The interpretivist approach, to the contrary, looks for culturally derived and historically situated interpretations of the social life world. (p. 67)

Within phenomenological research as defined by Creswell (2003), “the researcher identifies the ‘essence’ of human experiences concerning a phenomenon, as described by participants in a study” (p. 15). Moreover, “Understanding the ‘lived experiences’ marks phenomenology as a philosophy as well as a method” (Creswell, 2003, p. 15). This encourages me as a researcher to look at home safety as the client interprets the issues through their own experiences. These perspectives fit well with an educational experience that examined narrative learning and allowed me to adjust the questions and photo assignments that were the foundation of my educational strategy, to fit the participant’s experience. Personal narratives, as they are used in education, are supported by the idea that a person has a unique experience in their homes that ties their safety to their daily functioning. Because of this very individual experience, a full examination of the educational process required an individual approach regarding older adult home safety.

**Design.** Drawing on the strengths from both qualitative and quantitative research I used a “multicase study” (Stake, 2006, p. vi) design with primarily a qualitative focus. The qualitative process examined narrative learning as supported by photo elicitation and was supplemented by the use of a pre/post measure of home safety, the SAFER HOME Assessment v. 3 (Appendix A), which is used as an outcome measure in the field of occupational therapy (OT) (Chiu & Oliver, 2006).

The purpose of this study was to explore the experience of a home safety education program for older adults, grounded in narrative learning and delivered electronically using digital photographs and web-based video technology. A secondary purpose was to continue to build
upon the knowledge of how occupational therapists provide client education as an intervention strategy in the emerging practice setting of telehealth. It was my intention, through this multi-case study, to examine the experiences of educating older adults about home safety via web-based video technology using photo elicitation and narrative learning. The central research questions were as follows:

- What is the process of home safety education with older adults as it is delivered in a web-based synchronous format?
- How does the use of narrative learning theory enhanced by photo elicitation facilitate older adults’ home safety?

Subsequent questions included:

- What are the participant experiences with managing home safety issues?
- Are there demographic characteristics of older adults that can influence home safety decision making?
- Does the combination of personal narrative and photo elicitation interviews impact home safety as scored by the Safety Assessment of Function and the Environment for Rehabilitation-Health Outcome Measurement and Evaluation, version 3 (SAFER-HOME v. 3) (Appendix A)?
- How does the use of personal narrative and digital photography impact an individual’s awareness of safety challenges in their home?
- How does narrative learning and photo elicitation support existing theories of change when addressing home safety?
- What insights about safety issues in the home and community are gained through photo elicitation and personal narrative?
With depth, I explored the experience of educating older adults via web-based video technology. This type of research involves the study of a case within a real life, contemporary context, or setting (Yin, 2009). Examining multiple cases using interviews, digital photographs, and a home safety assessment allowed me to position myself both as a researcher, but also brought my personal values as an occupational therapist into the discussion to collaborate with the participants on a plan for change. The aim of this study was not to establish a home safety program and provide a statistical analysis of its success that can be generalized to OT service delivery. Instead, this very unique experience was designed to illustrate the challenges and rewards found with these individual case examples. As Stake (1995) suggested, the case becomes a method to better understand the topic of study. Herein, case study was used to focus on a particular phenomenon—how an individual uses the process of describing events and environmental spaces within their home to learn about improving the safety. While I examined the past experiences of the participants, as an adult educator I also studied how the participant uses the discussion of those experiences to make changes in their homes.

**Role of the researcher.** The role of the researcher was twofold: that of an occupational therapist with clinical experience educating patients about home safety, and that of an educator. I attempted to marry my understanding of environmental barriers, how individuals function during daily tasks, and how they learned to modify their future activities based on past experience. Multiple conversation/interviews helped me develop the insider perspective necessary to accurately represent the participants’ experience in this process. This engagement focused on broad areas of the home environment, made more specific through participant photographs. Based on areas of the home, open-ended questions (Spradley, 1979) were used during each session and these conversation/interview sessions between me and each participant...
were recorded and transcribed. As the researcher and educator, it was my role to guide the participant, driven by their topic, toward a greater awareness of home safety. As an OT, my goal was to help individuals’ problem solve and adapt current strategies to meet their needs (Schkade & Schultz, 1992). It is because of my occupational therapy paradigm that I have found a good fit in adult education, as it is a field that values the life experiences and self-directed reasoning of the adult learner. While many of the home safety topics may be addressed in a typical OT practice setting, this research used participant narrative as its primary learning strategy and the research did not introduce safety issues other than those identified by the participant, as adult learning theories suggest this as a basis for a transformative experience.

Data collection

Data collection for each participant occurred over a five week period. This included two face-to-face sessions (the first and last) and three web-based video conference conversation/interviews that occurred during weeks two through five. Table 1, which follows, provides a schedule of data collection events for this study. Data collection took place between October and December of 2013.
Table 1

*Session Schedule Over Seven Weeks of Data Collection*

<table>
<thead>
<tr>
<th>Week</th>
<th>Monday</th>
<th>Tuesday</th>
<th>Wednesday</th>
<th>Thursday</th>
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<tbody>
<tr>
<td>1</td>
<td>P1 Initial Visit</td>
<td></td>
<td></td>
<td></td>
<td>P2 Initial Visit</td>
</tr>
<tr>
<td>2</td>
<td>P1 VSee 1</td>
<td>P 3&amp;4</td>
<td>Initial Visit redo</td>
<td>P3&amp;4 VSee 1</td>
<td>P2 VSee 1</td>
</tr>
<tr>
<td>3</td>
<td>P5 Initial Visit</td>
<td>P1 VSee 2</td>
<td></td>
<td>P3&amp;4 VSee 1</td>
<td></td>
</tr>
<tr>
<td></td>
<td>P2 VSee 2</td>
<td>P5 VSee 1</td>
<td>P1 VSee 3</td>
<td></td>
<td>P3&amp;4 VSee 2</td>
</tr>
<tr>
<td></td>
<td>P6 Initial Visit</td>
<td></td>
<td></td>
<td></td>
<td>P3&amp;4 VSee 3</td>
</tr>
<tr>
<td>4</td>
<td>P1 Final Visit</td>
<td>P6 VSee 1</td>
<td></td>
<td>P3&amp;4 VSee 3</td>
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</tr>
<tr>
<td></td>
<td>P2 VSee 3</td>
<td></td>
<td></td>
<td>P3&amp;4 VSee 2</td>
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</tr>
<tr>
<td>5</td>
<td>P5 Final Visit</td>
<td>P6 VSee 2</td>
<td></td>
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<td></td>
<td>P2 Final Visit</td>
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<td>6</td>
<td>P5 VSee 3</td>
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<tr>
<td>7</td>
<td>P5 Final Visit</td>
<td>P3&amp;4 Final Visit</td>
<td></td>
<td>P6 Final Visit</td>
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</tbody>
</table>

*Note:* P refers participant, and the number that follow is the participant number.

**Participants.** Participants were six purposefully selected, community dwelling, older adults over the age of 65. Data was collected during two face-to-face sessions for equipment set up and pre/post quantitative assessment administration. Data was also collected during three web-based video sessions; these sessions primarily focused on photo elicitation and the narrative learning process. Potential participants were initially recruited via email (Appendix G) or a recruiting flyer (Appendix E) through local community organizations that support the health and well-being of older adults. These included the Indiana chapter of the Railway Business Women, and the South Eastside Senior Center. An initial email was sent to the individuals who lead or
coordinate these organizations (Appendix F, Appendix H). Once permission was obtained via return email or letter (Appendix J, Appendix K) a recruiting email describing the study (Appendix G) was sent from the coordinator to the members of each group. This email contained my contact information but was sent through the organization’s coordinator. These initial emails did not result in any responses. Because of this lack of interest, a recruiting flyer (Appendix E) was provided to personal and professional contacts known to me as an occupational therapist. These individuals provided potential participants the recruiting flyer (Appendix E), and six potential participants contacted me via email to express interest. These six participants were contacted by phone and after any needed clarification, agreed to participate in the study and scheduled an initial meeting.

**Rationale.** Purposeful sampling, according to Creswell (2013), “is the primary sampling strategy used in qualitative research. It means that the inquirer selects individuals and sites for study because they can purposefully inform an understanding of the research problem and central phenomenon in the study” (pp. 299-300). Participants in this study were required to meet certain inclusion criteria, including a fundamental knowledge of digital or cell phone photography, a home computer that has an operating system using Windows XP SP3, Windows Vista or later versions; Mac OSX 10.6 and above, IPad iOS 5.0 or later, and be familiar with the use of email, and telephone. Participants were also required to use V-See as a method of video communication. It was important that the participants were comfortable with the use of technology, as individuals who were not, would have been unable to improve their understanding of home safety while attempting to master technology. Exclusion criteria included older adults who were in the acute phase of an illness or disabling condition. This exclusion criterion is
necessary as Indiana occupational therapy statute prevents occupational therapy practice with this type of client without a physician’s referral (Indiana Professional Licensing Agency, 2011).

**Photo elicitation.** After the initial contact and prior to each video conversation/interview session, the participants sent digital photographs through electronic mail (email) or via text messaging. If the participant were late with this assignment, the video conferencing program did allow the transmission of photographs through the V-See session, but my preference was to have the photos in advance of the conversation/interview session. Successive photo assignments were based on the evolution of the prior week’s conversation/interview. Receiving the photos in advance of the session allowed me to prepare for the topic and if possible, focus on specific issues within the photo. Essential to the success of photo elicitation (Harper, 2002) and narrative learning (Clark, 2010, and Clark & Rossiter, 2008) is the concept that the perspective of the participant is the foundation. One criticism against Wang and Burris’ (1994) initial project was by a professional photographer who felt that funds would be better used if the researchers would “purchase him a high-quality camera, a budget for film processing, and the means to travel through the two counties and the entire province” (p. 184). The researchers indicated that while this would have produced images of better quality, this expert would not have provided the insider perspective. Wang and Burris (1994) stated, “the photo novella approach allows that meaningful change comes from the center” (p. 184). This method has been particularly effective as a tool to give voice to individuals who are disadvantaged such as those with disabilities or the elderly as they face obstacles in the community (Guillemin, 2004; Jurkowski, 2008; Lorenz, 2010).

**Setting.** Data collection occurred in two settings. The first and fifth sessions occurred within the participant’s home. Sessions two through four occurred via web-based video
conference; I was located in my office, and the participants were in their homes. Participants engaged with me using a web-based video program for telehealth service delivery, V-See. Based on national telehealth position paper (AOTA, 2013), as an occupational therapy practitioner I am required to hold a license in the location where participants are located as well as where I am located. Based on the Indiana occupational therapy statute, it was required that all participants in this study were located within the state of Indiana while they are receiving services (Indiana Professional Licensing Agency, 2011).

Selection. Participants who met the study criteria were selected on a first come, first served basis. After interested participants contacted me by phone or email via information on a recruiting email (Appendix G) or flyer (Appendix E), I contacted them by phone and reviewed the study parameters, explained the topic of study and the objectives. An initial session was scheduled at that time. Six participants constituted the sample, and all participants were made aware of the opportunity to participate by friends and colleagues.

Web-based video session. I completed a weekly video conversation/interview with each participant using the VSee software program. Sessions were scheduled based on the availability of the participant. These sessions included a discussion of the participant photographs and how the images related to past accidents, near misses or home safety issues. These web-based conversation/interviews occurred three times, meaning that the duration of participation in the study was for five to six weeks (i.e., one face-to-face set up, three web-based educational interventions, and a final face-to-face closing).

VSee is a web-based video technology currently recommended for telemedicine because of its ease of use and security. VSee technology requires “50% less bandwidth than Skype” (VSee, 2013), according to the advertising brochure (2013). Because of this low bandwidth, it is
available for use on 3G phone networks as well as through an internet connection. The low bandwidth allowed users with more primitive internet access to use web-based communication more efficiently. Kim (2013) stated, “VSee offers a simple, low bandwidth, secure and encrypted telehealth tool” (para. 2). The VSee website stated that, “VSee uses end-to-end encryption where no server, including VSee servers, has the decryption key” (VSee, 2013, para. 4). This process ensures that any data being transmitted is not decrypted on a remote server, therefore only accessible by the end users. Tsuboi (2013) at CNET stated, “As far as privacy concerns, VSee uses end-to-end encryption. Not even VSee servers, or others, have the decryption key” (VSee, 2013, para. 4). VSee requires that participants have access to Windows XP SP3, Windows Vista or later versions, Mac OSX 10.6 and above, or iPad iOS 5.0 or later.

Comparable to VSee technology is the use of Skype as an interview tool. When examining the literature on the use of web-based video tools I was surprised to learn that the first video telephone call occurred at the 1927 World’s Fair (Webster, 1998). Hay-Gibson (2009) reviewed the strengths and weaknesses of different types of programs for interviewing that are available on the Internet. This author used a variety of web-based tools for her PhD research and recommended the use of an audio-recording program called Audacity (Mazzoni, 2008) that records sound directly into the computer being used to host a video-conferencing session. In this case the researcher noted that the program did slow the response of her computer and that she preferred to use an external digital recorder as “Audacity files can be quite large, before conversion to .MP3 or .WMA format” (Hay-Gibson, 2009, p. 41). The author identifies advantages to online video-conferencing as expense and the ability of participants and viewers to see each other and read face and body language (p. 43). Disadvantages include: video conferencing equipment is needed by both parties, purchase and maintenance of
videoconferencing equipment, and participants may feel embarrassed or nervous to be on camera (Hay-Gibson, 2009, p. 43). Hay-Gibson (2009) offered several hints for Voice-over-Internet Protocol VoIP interviews including: email reminders of who will make the call and when the calls will occur, allowing for a pause when asking and answering questions, and being sensitive to participant reactions as some people do have an aversion to technology (p. 47).

**Recording data.** Qualitative data collected included the transcription of the three video conference interviews, recorded using either VSee, Audacity® software (Mazzoni, 2008) or an external digital recorder. These conversation/interview sessions focused on the digital photographs, taken by the participants, related to home safety. The duration of the study for each of the participants was approximately five weeks for a total of three to four hours of contact time.

**Protocol for collecting data.** One aspect that characterizes good case study research is the use of many different sources of information to provide “depth” (Yin, 2009, p. 18) to the case. Within this study, I used three primary sources of data: interview transcripts, demographic information, and pre/post home safety measures. Photographs were used as data antecedents, and a researcher reflexivity journal was used as a tool to analyze the learning experience from the perspective of the researcher. During the first of five sessions (first and fifth occurring in a face-to-face format) I administered the pre-test SAFER-HOME v. 3 Assessment (Appendix A) and verified the web-based video communication with the client via computer using VSee software. Participants signed the informed consent document (Appendix B) as well as a media permission form (Appendix C) allowing the use of the participants’ digital photographs. The participant received instruction on the use of a digital camera if needed and how to transmit photographs to me via email or cell phone, as well as communicate via VSee.
Participants met with me via web-based video over three conversation/interview sessions to tell the stories of their past accidents and discuss a home safety topic related to the weekly photo assignment. These sessions occurred over a three to four week period. During these web-based video sessions, the participants shared digital photographs and engaged in video conversation/interview sessions based on open ended questions (Appendix D) designed from James Spradley’s developmental research sequence (Spradley, 1979), moving from broad descriptive questions through structural, and finally into contrasting questions. These questions were adjusted each week based on the participant’s selection of photographs. These questions were designed using the Health Belief Model (Janz et al., 2002) as theoretical structure and work to guide participants along these stages of change. The initial face-to-face session took approximately one hour and the three video conference sessions and final face-to-face session took approximately 45 minutes each. Multiple meetings helped the researcher develop the insider perspective necessary to accurately represent the participants’ experience in this process. These recorded video sessions were transcribed using Microsoft Word® within 48 hours.

Photographs taken by the participants were used as a discussion point for the following session, allowing the participants to explain why the photo was taken and how the item or space photographed was significant in the home safety narrative. Receiving the photograph in advance of the session allowed me to prepare follow up questions and in some instances research solutions that were available for specific challenges. During the final face-to-face session I re-administered the SAFER-HOME, v. 3 (Appendix A) to provide an individual measure for each case and disconnect the electronic communication with the client by removing the software from their computer. Data were collected from the six participants and included the transcribed web-
based video sessions, two face-to-face sessions to collect demographic data, and a pre/post quantitative assessment.

The quantitative measure that supported the qualitative data was non-experimental and used descriptive statistics to measure pre/post scores related to home safety. The data collected included scores from the SAFER-HOME v. 3 (Appendix A), which examined the environment and individual’s ability to function safely during activities of daily living. The SAFER-HOME v. 3 (Appendix A) was administered to participants during the initial home visit after completing the initial paperwork process (informed consent, and media permission [Appendices B and C]) and equipment set up. This assessment was administered as a pre/post test, at the start and end (visit one and five) of the web-based home safety program to obtain information about their individual change over time. These assessment scores were not generalizable but offered an indication that the home safety education program lead to individual improvement. This individual outcome measure supported the qualitative data as participants experienced a change in their understanding of home safety issues.

**SAFER-HOME, v. 3.** This research used the SAFER-HOME v. 3 (Appendix A). This assessment was initially created to assess home environmental safety and was designed by occupational therapists for use with community dwelling elderly (Oliver, Blathwayt, Brackley & Tamaki, 1993). Version one was initially designed for use as a part of a home assessment for hospitalized individuals preparing to return home. Currently this tool is in its third revision and is used as an assessment that observes the patient functioning in their home. The initial SAFER assessment was in the form of a check-list where the therapist reviewed 128 items and rated them as either A-addressed, NA-not applicable, or P for problem. Later versions (SAFER-HOME, SAFER-HOME v. 2 & 3) were revised to use a four-point scoring system that made the tool
more responsive to change. Chiu and Oliver (2006) described the development of the SAFER into the SAFER-HOME outcome measure by adding a four-point rating scale. The current four point scale identifies 1-no identified concern, 2-mild problem, 3-moderate problem, 4-severe problem. This more responsive version is administered twice, pre/post intervention, and is used as an occupational therapy outcome measure when addressing home safety issues.

Data Analysis

Data analysis included “within case analysis” (Creswell, 2013, p. 101), as well as a cross case synthesis that that looked at categorical aggregation and patterns that older adults expressed when discussing home safety issues (Creswell, 2013). Conversation/interview sessions and participant response to open-ended questions (Appendix D) about photographs were recorded and transcribed within 48 hours of each conversation/interview session. Within case analysis (Creswell, 2013) described individual themes from the data that developed successive session topics. Data analysis was organized using a “spiral image” as described by Creswell (2013, p. 182). This process “touches on several facets of analysis and circles around” (Creswell, 2013, p.182) as the researcher organizes the text and photographs, reads and rereads the text until one is immersed in the details. Creswell (2013) offered,

Within case analysis may apply to either a single case or multiple collective case studies. In within-case analysis, the researcher analyzes each case for themes. In the study of multiple cases, the researcher may compare the within-case themes across multiple cases in cross-case analysis. (p 296)

Coding process. Following transcription and a preliminary read-through of the data, I assigned notes in the margin of the transcripts using the review feature within Microsoft Word®. These notes were used to help with coding of smaller categories of information and converting
the codes into themes (Creswell, 2013). Data was organized categorically with concepts emerging from the conversation/interview, photographs and researcher reflections. Once the data was coded and organized into themes, I sorted information into “large clusters of ideas and providing details that support the themes,” Stake (1995) called this analysis “development of issues” (p. 123). Figure 2 below provides a diagram illustrating the process of data analysis for this study.

Figure 2. Flow chart demonstrating the process of qualitative analysis for web-based video sessions.

Of particular importance were themes that indicated previous success in adapting to home safety issues and those based on significant statements that indicate that the participant was developing his or her knowledge about safety issues in the home through their focused photo
assignments. Creswell (2013) identified this step in analysis as interpretation, defined as “abstracting out beyond the codes and themes to the larger meaning of the data” (p. 298).

My initial review of the transcription provided a foundation for successive photo assignments and conversation/interview topics. This review yielded multiple statements by participants that demonstrated a growth in their understanding of home safety. Categorical aggregation (Creswell, 2013, p. 199) was used to look for patterns that showed multiple patterns of safety awareness learning across categories (Creswell, 2013). This use of patterns was the basis for a cross-case synthesis (Yin, 2009, p. 156) allowing me to compare concepts found in multiple cases. The last step in the analysis according to Creswell (2013) is where the researcher makes sense of the data developing assertions, and “provides an interpretation of the data couched in terms of personal views or in terms of theories or constructs in the literature” (Creswell, 2013, p. 294). When developing assertions I used information from the themes identified in the session transcripts, photographs and researcher journal entries to form my interpretation of the experience. These assertions that were developed across cases were examined as topics within the current literature. I took this topical information and examined it through the lens of literature on adult learning theories, specifically narrative learning, photo elicitation and change theory to further refine my findings.

**Verification.** Lincoln and Guba (1985) identify trustworthiness as a part of evaluating the worth of the research and use strategies to establish credibility, transferability and dependability to achieve trustworthiness. Lincoln and Guba (1985) include peer debriefing, triangulation, and member checking to establish credibility, thick description to establish transferability, an inquiry audit to establish dependability and reflexivity, triangulation and an audit trail to establish confirmability. Creswell (1998) identified strategies for verifying
qualitative findings and recommends that researchers use at least two of these strategies: persistent observation, triangulation, peer debriefing, negative case analysis, reflexivity, member checking, thick description and external audits. Creswell (2013) used the term “validation” (p. 250) as it has a focus on process rather than terms like “trustworthiness and authenticity” (p. 250). This study used reflexivity and member checking to limit bias and accurately reflect the views of the participants. Information on the reliability and validity of the SAFER-HOME, v. 3 (Appendix A) is also included below. These processes in addition to thick description derived from photo elicitation offered triangulation and insured valid trustworthy data.

*Researcher reflexivity journal.* According to MacBeth (2001), the process of reflexivity is, “a deconstructive exercise for locating the intersections of author, other, text, and world, and for penetrating the representational exercise itself,” (p. 36) or as a “turning back upon itself” (p. 36). Creswell (2013) described reflexivity as:

an approach in writing qualitative research in which the writer is conscious of the biases, values, and experiences that he or she brings to a qualitative research study. In writing a reflexive passage, the researcher discusses her or his experiences with the central phenomenon and then how these experiences may potentially shape the interpretation that the researcher provides. (p. 300)

In qualitative research validity is insured through processes like peer debriefing and triangulation of data, offering multiple views of concepts found in the data. Researcher bias was addressed through the use of a reflexivity journal (Guillemin & Gillam, 2004) to create a personal narrative throughout the project and focus on strengths and weaknesses of the narrative learning strategy. Following each participant session, I completed a journal entry describing her perceptions of the experience and any biases regarding participant statements. This reflexivity journal was used to
guide the data collection as well as the data analysis portions of the study. The journal also allowed the researcher bias to be exposed, and along with member checking maintained the trustworthiness of the data. Bias included personality challenges with the participants, decisions made about data that was included or excluded from the analysis, and any ethical challenges that presented themselves as the participants discuss details about their life at home. Additionally I attempted to identify when, during the session, was the focus on traditional occupational therapy intervention, when was the focus on educational strategies, and when was there an overlap of these areas. Guillemin and Gillam (2004) stated that “reflexivity in research is thus a process of critical reflection both on the kind of knowledge produced from research and how that knowledge is generated” (p. 275). Making my perspective apparent was of value in supporting this type of client education as a useful occupational therapy intervention.

**Member checking.** Member checking was used to accurately reflect the views of the participants. During member checking, Creswell (2013) stated, “the researcher solicits participants’ views of the credibility of the findings and interpretations” (p. 252). Member checking should “play a major role directing as well as acting in case study research” (Stake, 1995, p. 115). Member checking of categories and meanings occurred at the start of the third through fifth sessions helping to accurately represent the meaning of the participant data and to audit my perspective and insure that the participant perspective was being accurately identified. Additionally, member checking was needed during this study because of periodic technology challenges described in chapter four. When recordings failed, member checking was used to recap descriptions of safety narratives to attempt to recapture meanings behind these narratives.

**Reliability and validity.** The SAFER-HOME v. 3 (Appendix A) has been designed for adult and geriatric clients and includes 74 items within 12 categories that rate home safety risk
from zero, indicating no problem, to three, indicating a severe problem. This assessment allowed me to score individual category scores and group into severe, moderate and mild categories identifying which areas showed greater problems. I anticipated that as home safety awareness improved, overall scores as well as category scores would decrease.

Research examining the parametric data has occurred with several versions of SAFER assessments. Letts, Law, Rigby, Cooper, Steward, and Strong (1994) reviewed a variety of person-environment assessments in occupational therapy and describe the original SAFER as having clinical utility that is useful for community-based practice as well as “internal consistency and content and construct validity” (1994, p. 615). Letts and Marshall (1995) studied the original 128 item SAFER assessment using a group of therapists and their older adult clients. As a result of this content validity study, the SAFER assessment decreased to 97 items. Letts, Scott, Burtney, Marshall, and McKean (1998) studied the 97 item SAFER Tool and found it to have good inter-rater and test-retest reliability but that some categories showed weak validity scores when compared to cognitive and instrumental activities of daily living (IADL) assessments. Chiu and Oliver (2006) completed a factor analysis, reliability and construct validity study of the SAFER-HOME v. 2. Researchers found that the SAFER-HOME v. 2 possesses “high internal consistency with a coefficient alpha value of 0.859, indicating that the 97 items all contributed to the measurement of one dimension (home safety)” (Chiu & Oliver, 2006, p. 140). Additionally the subscale values ranged from 0.529 to 0.789 (Chiu & Oliver, 2006). The researchers recommended that when using this assessment as an outcome measure that the total score be used rather than focusing on sub scores. These researchers also found a weak correlation between the SAFER-HOME v. 2 and a functional assessment, alpha value of -0.206, which
“verified the presumption that the SAFER-HOME v.2 did not simply measure functional status” (Chiu & Oliver, 2006, p. 139).

**Transferability.** The aim of this study was not to establish a home safety program and with a statistical analysis of its success that can be generalized to OT service delivery. Instead, this very unique experience was designed to illustrate the challenges and rewards found with these individual case examples. One aim was to provide value to professionals whose work involves educating older adults and that “transferability” was achieved through “purposive sampling and the thick description” (Erlandson, 1993, p. 33). Guba and Lincoln (1989) reminded us that transferability, in a constructivist approach, requires that “the burden of proof is born by the receiver of the information” (p. 241). Ruddin (2006) offered that case study research as qualitative methodology is generalizable, suggesting that a single case may not offer knowledge that can be applied to a large population, rather to provide generalization toward another case. Ruddin (2006) offered the example of law as a profession that begins with a theoretical set of statements, and adjusts over time as new cases continue to come forward. Given this perspective, this dissertation, does not generalize to a larger population, but offers transferability to those interested in the process of using educational methods when working with older adults via telchealth.

**Ethical Considerations**

Ethical considerations for this project were guided by the Occupational Therapy Code of Ethics and Ethics Standard (AOTA 2010) and human subjects’ protection as monitored by the Ball State University Institutional Review Board. The issues focused on protecting the confidentiality of the participants, and making sure services were delivered within the parameters

**Confidentiality.** Participant privacy was insured through the use of VSee, a web-based video program that meets HIPAA compliance requirements and is commonly used in telehealth service delivery because it offers secure encrypted communication. In regards to data management, each member was assigned a pseudonym that was used during transcription and in any research related writings. The list of participant names and pseudonyms as well as copies of informed consent documents (Appendix B) were kept in an encrypted file on my password protected laptop computer behind a locked office door. This document that ties the signed informed consent document (Appendix B) to the pseudonym of the participant will be destroyed following the completion of the dissertation publication or upon my termination from the EdD program at Ball State University. Based upon the occupational therapy ethical standards (AOTA, 2010) it was required that I “respect the recipient of service’s right to refuse occupational therapy services” (p. S21) and through the informed consent process make sure that “they understand the benefits, risks, and potential outcomes as a result of their participation as a research subject” (p. S21).

**Conflict of interest.** The community dwelling senior participants were informed through the consent process (Appendix B) that their session would be recorded, documented with field notes, transcribed using a pseudonym, and their photographs would be used in a published dissertation. The only conflict of interest foreseen was the opportunity for referring a participant in this research study toward a more traditional medical based OT practice where I am affiliated. To prevent this conflict, I abstained from clinical practice during the data collection phase of this research. By taking this action I was not in a position to provide traditional OT services to any
of my research participants, nor did I make recommendations to a site where I have a financial connection. As required by the occupational therapy ethical standards (AOTA, 2010) within the principle of nonmaleficence, I was expected to avoid causing harm to participants in this study. This includes “avoiding relationships that exploit the recipient of services” (AOTA, p. S20) and avoiding situations where I would be “unable to maintain clear professional boundaries” and “ensure the safety and well-being of research participants” (AOTA, p. S20). This standard required that I put the participant needs ahead of my desire to complete my research. No situation arose that indicated a participant would benefit from services that would remove them from the research project.

**Client-centered care.** Conversations that arose indicating a participant may have a medical issue did not limit any participation in this study. Participant Karen reported during our last session that she was seeing a physician to determine the cause of her nausea. No discussions that arose indicating that a participant was experiencing abuse or a life safety challenge. Had this occurred both the participants and I understood that this would be reported to the proper health and human services agency. This scenario falls within the Occupational therapy ethical standards document under the concept of beneficence (AOTA 2010) and expects that I would “refer to other health care specialists solely on the basis of the needs of the client” (p. S19). And that I would “report to appropriate authorities any acts in practice, education, and research that appear unethical or illegal” (AOTA, p. S19). It was important to make sure that participants understood the limitations of my role.

**Summary**

Drawing on the strengths from both qualitative and quantitative research, this multi-case study used qualitative processes supplemented by the use of a pre/post measure of home safety.
The purpose of this study, to explore the experience of a home safety education program for older adults grounded in narrative learning and delivered electronically using digital photographs and web-based video technology, was unique. Purposeful sampling was used, and participants in this study were six older adults with basic computer skills. A quantitative measure was used to support the qualitative data using pre/post scores to measure change in home safety. A high level of researcher reflexivity infused this study vis-à-vis a researcher journal. Moreover, member checking was employed to bolster the study’s trustworthiness. The study’s methodology and methods were designed to illustrate the challenges and rewards found with these individual case examples in the exploration of home safety education via web-based technology.
Chapter Four: Findings and Discussion

Chapter four is structured to give the reader an understanding of the individual cases within this multi-case study, as well as findings derived from the data collected as a whole. In addition to an examination of these case experiences, I have included a procedural findings section, which includes information regarding the technology used, the issues related to the use of photographs, and the adjustments made to the sessions over the course of this study. A visual representation of the findings is found below in Figure 3. Table two that follows contains demographic information on the study participants. Chapter four concludes with a discussion of the findings and the relationship to the existing literature.

Figure 3. Figure 3 provides a visual representation of the findings moving from a case study description into findings and finally to procedural findings—or findings gleaned from the research process.
Table 2

**Participant Demographic Information**

<table>
<thead>
<tr>
<th>Participants</th>
<th>Nancy</th>
<th>Lynn</th>
<th>Gene</th>
<th>Karen</th>
<th>Beth Ann</th>
<th>Robert</th>
</tr>
</thead>
<tbody>
<tr>
<td>Age</td>
<td>87</td>
<td>79</td>
<td>80</td>
<td>79</td>
<td>71</td>
<td>83</td>
</tr>
<tr>
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<td>4</td>
<td>4</td>
<td>3</td>
<td>2</td>
<td>3</td>
</tr>
<tr>
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<td>1</td>
<td>2</td>
<td>2</td>
<td>3</td>
<td>2</td>
</tr>
<tr>
<td>Pets</td>
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<td>Cat</td>
<td>No</td>
<td>No</td>
<td>No</td>
<td>No</td>
</tr>
<tr>
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<td>Yes</td>
<td>Yes</td>
<td>Yes</td>
<td>Yes</td>
<td>Yes</td>
</tr>
<tr>
<td>Rent home</td>
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<td>No</td>
<td>No</td>
<td>No</td>
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</tr>
<tr>
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<td>1</td>
<td>2</td>
<td>2</td>
<td>1</td>
<td>1</td>
</tr>
<tr>
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<td>Suburban</td>
<td>Suburban</td>
<td>Suburban</td>
<td>Suburban</td>
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<tr>
<td>Outside support</td>
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<td>Yes</td>
<td>Yes</td>
<td>Yes</td>
<td>Yes</td>
<td>Yes</td>
</tr>
<tr>
<td>Church Community</td>
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<td>Yes</td>
<td>Yes</td>
<td>Yes</td>
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<td>Yes</td>
</tr>
<tr>
<td>Still Driving</td>
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<td>Yes</td>
<td>Yes</td>
<td>Yes</td>
<td>Yes</td>
<td>Yes</td>
</tr>
<tr>
<td>Restrictions</td>
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<td>No</td>
<td>No</td>
<td>No</td>
<td>Glasses</td>
</tr>
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<td>Level of Education</td>
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<td>MS Education</td>
<td>1 year of college</td>
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<td>Yes</td>
<td>Yes</td>
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<td>Yes</td>
</tr>
<tr>
<td>Children</td>
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<td>Yes</td>
<td>Yes</td>
<td>Yes</td>
<td>Yes</td>
<td>Yes</td>
</tr>
<tr>
<td>Grandchildren</td>
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<td>Yes</td>
<td>Yes</td>
<td>Yes</td>
<td>Yes</td>
<td>Yes</td>
</tr>
<tr>
<td>Fun or recreation</td>
<td>Hallmark movies, bridge, volunteer fish &amp; dance</td>
<td>Spanish lessons, symphony, needlework &amp; light gardening</td>
<td>Projects Church, make toys</td>
<td>Eat out, church, Dominos, shop, thrift shopping</td>
<td>Casino, Church, Walking, Cards</td>
<td>Golf or Casino</td>
</tr>
<tr>
<td>Describe your health</td>
<td>Very good</td>
<td>Fatigue, Heart problems, glaucoma</td>
<td>Excellent for my age</td>
<td>Starting to need help for big jobs</td>
<td>Blessed, good for my age</td>
<td>In good health</td>
</tr>
</tbody>
</table>
Case Studies

Within this section, I begin with a case review of each of the participants involved—including their demographic information, SAFER-HOME v. 3 results, and technology related information. Aggregate participant demographic data is housed within Table 2. All names are pseudonyms. It is my hope that this information will provide the reader with an understanding of the unique characteristics of each participant and address the research questions: What are the participant experiences with managing home safety issues? And how does the use of personal narrative and digital photography impact an individual’s awareness of safety challenges in their home?

Participant 1. The participant, referred to as Nancy, was an 87-year-old woman who lived in a three bedroom, one-story condominium, described her health as very good, and rated her comfort with her computer between two and three on a scale of one (low) to five (high). Nancy lived alone with no pets, and her community was a suburban neighborhood located near a large park. Nancy was unwilling to offer much information about her socioeconomic status, but she received financial support from social security and help in many ways from her children. Nancy was a member of a church, and during the period of time our sessions occurred she was actively helping with Operation Christmas Child, a Samaritan’s Purse project that sends shoeboxes of treats and supplies to children in need. Nancy was initially resistant to being a part of this project, as she did not feel she would have enough time to participate because of the shoebox project. Nancy liked to play bridge, fish, dance, and watch Hallmark movies for recreation, as well as working with her granddaughter on a quilt. Nancy graduated from a business college as a young woman; she had been married three times and had three children and numerous grandchildren. One daughter lived only a few miles away, and Nancy often had
dinner with this daughter and her daughter’s family. This daughter worked full time and Nancy often brought a dish to help with the evening meal. The other children lived out of state. Additionally, this very busy woman had a cottage business making and selling rice bags that can be microwaved and used as heating pads. These were sold in gift shops near her children on the east coast. Nancy continued to drive, accessing church and community activities, completing regular home management tasks such as banking and shopping, helping her daughter with transporting grandchildren, and an occasional meal. The only restriction Nancy had on driving is that she wore glasses, but she had decided on her own that she preferred to drive during the day time hours, in good weather, while avoiding peak traffic times. These decisions may have something to do with a few near misses she described during our sessions. Overall, Nancy seemed to be a very independent healthy older adult who continued to enjoy her life and productivity.

SAFER-HOME v.3. Scheduling our initial face-to-face session was a challenge, with Nancy offering a very short window during a day that she was house cleaning. Her scores on the SAFER-HOME v.3 showed an improvement over the period of our online education moving from 14 down to 6 (lower numbers indicate fewer safety issues). These numbers may have shown an inflated change, as there was more household clutter during the initial visit because of the supplies and equipment needed for house cleaning. In addition to areas within the home, there was additional clutter within the attached garage because of the shoebox project. This included a table set up with supplies in a position where a car may have been parked. At the time of the final visit, this project had been completed and all of the wrapped shoeboxes were waiting to be picked up by volunteers.
While changes in home safety scores are explainable because of circumstance, such as my arrival to Nancy’s home on cleaning day, circumstance also provided this study some timely support when working with Nancy. Her initial defensiveness seemed to ease a bit given a couple near misses in her car and her home that preceded our discussions. Prior to the discussion on driving Nancy experienced an episode in which she needed to run off of the road; she was driving too fast in an unfamiliar area. Additionally, before our final face-to-face visit she had a worker in her home that fell off of her entry step and was injured. Both of these events seemed to decrease Nancy’s defensiveness and encourage change over the course of our discussions.

**Technology.** Nancy uses an iPad for basic Internet searching and asked if it was possible that we use FaceTime rather than VSee for our online sessions. I explained that my approval was only for the use of VSee, but this was a program we could install on her iPad. I attempted to install the program on her iPad, but Nancy was unaware of her Apple ID and did not know her password. This type of programming was always performed by her daughter or her grandchildren. We opted instead to install the program on her Dell desktop computer. Nancy was able to use her own webcam, but because she also did not know the password for her Wi-Fi system, I was unable to test our connection using my computer. As I had committed to Nancy that I would finish our session on time, I decided to complete our paperwork and schedule our first VSee visit on faith, without testing the connection first. Our first VSee session was a success. We were able to connect easily, but successive sessions had technology challenges. VSee session two was challenged because Nancy was having trouble with her hearing aids, and VSee session three seemed to be challenged by the slow processor on her desktop computer. During this session, I was able to see her but did not have audio. It was decided during session three that we would speak on the phone while using the video from VSee. Nancy seemed to be
unafraid of technology, and this contributed to our success. While she had only basic computer skills, she was certainly willing to laugh at herself and the process when technology did not work well. Nancy was confident enough in her life experiences to not attach too much emotional value on her computer skills. So even when technology was a challenge to our process, she was very willing to laugh and keep trying. This is a valuable characteristic when working with people who are less familiar with technology, and it is important that they not sense any frustration on your part or that you perceive their skills to be inadequate. This could cause a participant to be less forthcoming in discussions about safety problems.

**Participant 2.** Participant 2, identified as Lynn, is a 79-year-old woman who lived alone in a one-story, two bedroom suburban home, attached to a neighboring garden style home. She had a two-inch step at the patio and the front door and a two-inch step into the kitchen from the garage. Lynn ranked her level of comfort on the computer as four on a one (low) to five (high) scale. This level of comfort possibly stems from her long-term career working in the research department for a local pharmaceutical manufacturer. She smiled during the informed consent process and happily let me know that this was what she did for a living for many years as she worked in the research department of a pharmaceutical company. Lynn shared her home with a cat and identifies her socioeconomic status at middle class. She had children who lived out of state and a daughter that lived approximately a mile away that provides help if she needs it. Lynn shared evening meals with her daughter’s family including a son-in-law and two granddaughters. Lynn also spent time with her sister, attended symphony concerts with a group of friends, enjoyed taking classes in Spanish, as well as light gardening and needlepoint. Lynn continued to drive without restrictions, but reported that she has had a hip replaced, manages glaucoma and has had surgery on her heart valve. Since that time she has been treated for
pulmonary hypertension. Her biggest challenge given her cardiac problems was managing her fatigue. She maintained an exercise routine but reported that on some days she is just too drowsy to do all of the things that she would like to do.

SAFER-HOME, v. 3. Lynn showed no substantial change in her score on the SAFER-HOME, v. 3 assessment (Appendix A) improving by one point overall. During our initial meeting she seemed a bit more cautious when stepping over the threshold at her front door. This moved her from a four on the initial visit to a three on our final visit based on this area. I do not believe that Lynn was more or less safe because she took the time to make a cautious entrance, my presence may have influenced this score, and her desire to do well made her step more cautiously during that first session. The only items that were a notable safety problem in her home were the throw rugs, which had a heavier backing and mainly lead from the garage into the kitchen, and the cat toys, which seemed to be in the main living area of the home.

Technology. Lynn was quite comfortable with her computer, a current model laptop. During our first session I was easily able to load VSee onto her laptop and wirelessly check our connection using my laptop within her house. Before leaving our first visit I verified that Lynn was able to both place and receive a call to me using VSee. We did experienced a challenge with our connection on VSee visit one. The evening prior to our session storms came through the area with a great deal of wind, and many neighborhoods between our homes were experiencing power outages. The software seemed to lag at times, and it was often as if the visual part of the call was not in sync with the sound. Once we disconnected and made the call again, the connection improved. This was our only challenge related to technology. Lynn was quite comfortable with taking and emailing photos as well as using the web-based video software.
Participants 3 and 4. Participants 3 and 4 will be called Gene and Karen, and were a married couple who wanted to participate in the study as a pair. I initially had concerns about working with two people at the same time during this process. I was concerned it would be difficult to manage and examine learning experiences. All other participants experienced individual sessions. Working with this couple turned out to be quite a rich experience—for my research as well as my soul. Gene and Karen are true partners in life. They plan together, work together and make their decisions putting each other first. They are a great example of a marriage working well. Gene and Karen were 80 and 79 years old, respectively. They rated their comfort with the computer at a four (Gene) and a three (Karen) on a scale of one (low) to five (high). Gene has survived three battles with cancer, but stated his health is excellent for his age. Recently, he experienced an ankle wound as he stepped back into some equipment in his outdoor workspace and was working with a wound care clinic to improve the healing at his ankle. Karen also identified her health as good but recognized they are beginning to ask the kids for more help with big jobs around the house. They lived in a two-story home that looks much smaller on the outside than it actually is. The home sits on a large hill sloping down to approximately five wooded acres. The front entrance is on the top level of the home, the lower level has walk-out access in the back from a large family room with a fireplace. The couple had many bird feeders on this hill, and it is obvious they enjoyed having such a large piece of property. I was surprised to learn that this couple had moved into this home within the last 20 years from a smaller home with a smaller yard. This is the opposite of what one might expect of couples as they enter their retirement years. As Gene and Karen neared retirement they decided that if they were to ever have their country home that now was the time, so they moved to this large piece of property near the outskirts of a suburban area. Since that time, suburbia has grown
out toward their property; they continued to be pleased with their home as well as its proximity to restaurants and entertainment. Gene and Karen met in college, Karen did not complete her degree but Gene continued completing his Master’s degree in Education. He retired from a career as a shop teacher. Karen managed the home and raised their children. Adult children in the area as well as grandchildren provide support, and the couple enjoys social activities with friends and through church. Gene and Karen also liked to shop, enjoyed garage sales and trips to thrift stores to find a bargain. They both drive and had no restrictions on driving, but Gene reported, as Karen laughs, that driving had become a two-person job.

I have to admit that this couple really grew on me over time, and I came to admire their relationship as a great example of successful teamwork. Their roles within their marriage were very traditional yet each seemed to thrive in their relationship. It was clear, even during our electronic communications that they are always kind, tending to each other’s opinions and ideas. I appreciated their constant team work, and believe this contributed to their learning experience. Throughout this study, as I tried to explain my focus on the use of the photographs and narrative learning, many participants have just nodded and smiled, but they needed prompting over time such as, “what do you want me to take a photo of?” or “is this photo okay?” Gene and Karen did not need any prompting. It is possible that because of his advanced degree in education that he understood the learning process from the start. But as our conversations unfolded it became clear that they took on participation in this study as they took on many projects. They took some time discussing it before they agreed to participate, then they worked as a team to understand what the project was about and what it required of them. When it came time to take a picture, they sat down together and discussed times when there were accidents or injuries and when they ran out of ideas they focused on some issues that their friends had experienced that they wanted
to bring into the discussion. Then they went around their house and property and staged photos with all of the relevant items included in the photo. After staging and taking their photos, they sent them to me via email. I suspect they had a great time staging a shot and saying: “Here, these were the shoes you were wearing!” This teamwork in preparing for the discussion provided a rich learning experience for us all.

Our discussions were always longer than the discussions I had with my individual participants. I made sure we stopped near the 50 minute mark to adhere to the guidelines I described at the start of the study, but this always seemed an interruption. Gene and Karen also took more photos than other participants. The first session was a great start; there was much to discuss, and they did not seem to need any time to become acquainted with me before they were comfortable disclosing their information. Our rapport came easily. Both Gene and Karen seemed very confident in their discussion and were happy to receive feedback on their experiences. I suspect their comfort was higher and rapport came easier because they always had their trusted friend by their side.

There were changes over the course of our online sessions. During our initial visit Karen mentioned that she had been having some sort of stomach problems. They would come and go, but she just did not feel like herself. During our first VSee visit she was in good spirits and made no mention of feeling poorly but seemed to speak up less during our second visit. During our third visit on VSee she disclosed that she had been really limiting her activity over the course of the last few months because of pain and problems with her digestion. During that final session Gene had taken over the kitchen, and she was teaching him how to do laundry as if they were preparing for a lengthy health challenge. This did seem to give our final session a different
focus, and a greater sense of urgency as I felt as if our education moved from past experiences to planning for an easier way of living during an upcoming more difficult period.

**SAFER-HOME, v.3.** Gene and Karen improved from a score of 11 to a score of eight. I experienced some challenges with technology during our first face-to-face visit and I needed to schedule a second face-to-face visit to finish setting up the software. It was during this time that I was able, only for a short while, to have a quick tour of their home. I did want to be respectful of their time during those initial face-to-face sessions so I finally completed my last few questions on the initial SAFER-HOME, v. 3 assessment (Appendix A) during our first VSee visit. They seemed to be fine with this way of catching up, and the questions seem to flow well into the discussions about past safety challenges. The improvement in SAFER-HOME scores was based on the couple’s willingness to make change in a few areas moving throw rugs and tending to casually placed extension cords.

**Technology.** In this case, technology was a problem for me and not Gene and Karen. I am sure after our first visit they did not have much faith in my tech support skills. As the owner of both an iPad and an iPhone, but a committed PC user in the workplace, I was challenged by the less familiar Mac desktop used by Gene and Karen. I loaded software and registered Gene and Karen with VSee through their email account, but I was unable to use that same email and the established password to login to the installed version. I made several attempts, but knowing the couple had a scheduled appointment following our first visit, I chose to end on time and try to figure out my problems another way. They were kind enough to let me return to their home several days later and complete the installation. I had to resend the password I had originally created and reinstall the program onto their computer after consulting with a Mac user to make sure I understood the process. I am still not sure why this connection challenged me so. It is
possible I was tripped up by the different operating system, but I was also frustrated that I was unable to receive any support from VSee to help me make this connection. I was directed to the frequently asked questions board on their website where I found no similar problems and many unanswered posts from as far back as 2011. Once the program was reinstalled and we were able to connect, there were continued challenges. Our first visit VSee did not record. Despite the fact that the icon within VSee indicating that a recording was in progress showed throughout our visit—I found after closing our connection that I had one recording of myself, and that I had no recording of Gene and Karen’s portion of the session. I did my best to recreate this session based on my portion of the conversation, but I believe I lost what was probably the funniest description of a trip down an icy driveway to get the mail I have ever heard. During our second visit, I asked Gene to retell this same story, and he obliged. But it was not the same, probably because I had lost Karen’s laughter during the repeat performance. As a result some of the information in the findings is represented as paraphrase rather than a direct quotation. Tech support seems to be a must when educating clients via telehealth.

**Participant 5.** Participant 5 will be referred to as Beth Ann. She is a 71 year-old woman who lived with her husband, an avid golfer, and her divorced 54 year-old son in a one-story three bedroom home with an attached garage. When asked to describe her health she stated that she was “very blessed,” her health was “good for my age.” Beth Ann lived in a suburban area, does not have pets, and identified her socioeconomic status as middle class. Like other participants, Beth Ann had a good area support system with a large extended family that lived in the nearby area as well as family in other states. In addition to drawing on family for support, Beth Ann also provided family support by helping to pick up her grandchildren from school and practices, and there seemed to be an open door at her home with family stopping by at all times. For
recreation Beth Ann liked to go to the casino, attend church, walk, play cards, and enjoyed her afterschool time with her granddaughters. There were no restrictions on her driving. Beth Ann obtained her GED after getting married in 10th grade. She had a desktop computer and a cell phone that she used regularly. The computer was new, and she rated her comfort with computer use at a two on a scale of one (low) to five (high).

Beth Ann also reported that she smoked a half pack of cigarettes each day and has smoked as long as she can remember. She also, without prompting, informed me that she drinks five to six cans of beer each day and will not be giving this up. This topic became a part of each of our VSee conversations. Beth Ann had a routine that involved taking care of her home and husband and running any errands or trips to help with the grandchildren in the morning and early afternoon. Somewhere in the afternoon she began to drink beer. At times she went into the garage, sat in her lawn chair, and smoked. While Beth Ann reported that she smoked a half pack a day, her home did not smell of smoke at all. While she and I were going through the home during the SAFER-HOME assessment, she said, “Come see my garage.” We walked into the attached two-car garage that holds one car and has a couple of lawn chairs and a folding table set up next to the car. This was where she smoked each day. There was no visible smoke in the air, but the smell was so sharp I immediately felt the need to cough. This cough grew and grew until she said, “let’s get you back inside.” Beth Ann and I were not in the garage more than three or four minutes when I had an immediate physical reaction to the smell. I am not a person who is intolerant of cigarette smoke. I grew up in a home where my parents smoked and during a time when smoking on airplanes, in restaurants, and in pubs was very common.

Beth Ann was adamant that she was working her drinking into her household routine in a safe way. Unfortunately, many of our safety discussions seemed to have two underlying
problems. First, she is a fast worker and now that she is aging her body does not respond as quickly as it once did. Second, the scenarios she describes as problematic always seem to happen in the latter part of the day, so her accidents and near misses fit into the time of day when she has been drinking. The family seems to be aware of this daily routine, and everyone has adjusted their behavior patterns to accommodate. I suspect that Beth Ann is a well-functioning, long-term alcoholic.

**SAFER-HOME, v. 3.** Beth Ann showed a slight improvement in SAFER-HOME, v. 3 (Appendix A) scores moving from a nine to a six. With the greatest change being fewer throw rugs throughout the home on my final visit. Beth Ann even gestured to where the rugs had been removed during that final visit, as if to show me that she was listening and valued our experience. I learned later that she had fallen stepping into her home from the garage, slipped on a rug and had a few bruises from the experience. I would like to think that our home safety sessions helped her make this change, but sometimes experience is the best teacher.

**Technology.** Beth Ann’s family computer was a recent purchase. Neither she nor I was comfortable with the Windows 8 operating system. I struggled a bit with set up as this system allows the user to move from touch screen to the more familiar desktop layout. Beth Ann was unaware of her Wi-Fi login password, but she was able to direct me to the router where I located the needed code and accessed her Wi-Fi. Before leaving her home on visit one I was able to establish a good connection using VSee and she repeatedly placed and answered calls through this software. Beth Ann did prefer to take her photographs with her cell phone and then send those to me via text message. She also seemed to prefer doing her “homework” immediately following our online session. I received those text photos the same afternoon following a morning VSee session.
Participant 6. Participant 6, identified as Robert, was an 83 year-old married man who lived with his wife of more than 50 years, Judy. Robert was in good health but managed osteoarthritis and diabetes. He rated his level of comfort with his computer at 3.5 on a scale of one (low) to five (high). Robert and his wife had no pets and have owned their one-story, two bedroom home since 1955. The couple has added a family room and enlarged the bedroom but the fact that they raised five children in this small home certainly offers insight into how homes have changed over the last 50 years. This home was in a suburban area and in close proximity to a river. Eight years ago the couple experienced a flood and much of the home and furniture were rehabilitated or replaced. Robert considered himself middle class. He belonged to a church community, volunteered through the Lions club, and enjoyed golf and going to the casino. He continued to drive and had no driving restrictions. Robert attended some college and had been retired for several years. He had adult children who lived in the same state but approximately two hours away. Other children lived in Arizona where Robert and his wife would travel in the winter. Robert had numerous grandchildren as well, and he was confident that he would be well supported by his family if needed. Robert did not anticipate any outside support was needed and was very thankful for his health.

SAFER-HOME v.3. No change was made on the SAFER-HOME, v.3 assessment for this participant. After two VSee sessions I did not anticipate any change. Robert’s home was small and packed with furniture. The home is clean and kempt, but this small house is full. Some places such as the front bed/craft room and the office section of the larger master bedroom are accessible but somewhat cluttered with work and hobby items. The family room was small and given the size of our modern over stuffed furniture, the space allowed for walking within this room, was very narrow. In some respects this allowed Robert to stabilize his balance on the
furniture and could possibly prevent falls. Should someone fall in this room, he or she would almost certainly land on a piece of furniture. It is impossible to forecast if this will be the result or if all of the furniture will just offer more items to injure a person on their way down to the floor. Additionally, this couple has had safety challenges over the years, but they have been quick to take steps and make changes. Robert reviewed the steps taken when he purchased and installed grab bars in his tub to help his wife, as well as the decision-making process around the furniture placement in the bedroom when he had a fall out of bed. He and his wife have taken time to analyze past events as they occurred and made changes. It is difficult for this participant, given his personality and common sense approach, to share past experiences that did not also have solutions. These solutions have been effective, and while he seemed ready and able to make adjustments to specific events, he did not seem eager to take those experiences and transfer them to other safety opportunities within his home. For these reasons, Robert was the only participant who only experienced two VSee sessions. It simply seemed that we had exhausted the available topics, so we agreed to shorten the series of meetings.

*Technology.* Robert enjoyed working with his computer and has recently acquired an iPad, and he enjoyed using Skype and FaceTime to communicate with his children and grandchildren. During our initial face-to-face visit, I noticed he did not have an installed webcam on his desktop computer. I pulled out a webcam and offered to install it on his computer, but he said he had a new one and pulled his own out of a drawer, still in the packaging and began to open it. Robert seemed to enjoy technology and all of the gadgets that accompany computers. I installed VSee on his desktop and was able make a connection with my laptop computer. In hindsight, I wish I would have installed the program onto his iPad because when we attempted to connect for our initial online session, we were unable to make the audio portion
work. I was able to see Robert on the computer, but I could only hear what he was saying through a phone connection. This was similar to my experience with Nancy in our last visit. Because of this I did not have a good quality transcription for our first session. He did download VSee onto his iPad before that session was over, and we were able to have a quality connection for our second VSee session. I removed VSee from his desktop during our final face-to-face session, but Robert said that he would take care of removing it from his iPad. He might even use it to communicate with his grandson.

**Findings**

I came to this research with certain ideas and expectations. These included the idea that the use of photographs in support of narratives could influence participants’ understanding of home safety, that an older adult’s comfort with technology would influence their learning experience, and that participant safety narratives would be enhanced by photo elicitation. Differences in the participant understandings of home safety education and just what an educational experience should include were at times challenging.

**Photographs.** The photographs always seemed to enhance narrative learning if there was participant *buy-in* of the process; participants who most benefited from the experience were those who embraced the process and understood the connection between the reflection required to produce a photo and the discussions that came from this reflection. Gene and Karen were an example of how taking photographs positively influenced learning. When I mentioned that I had received their very inspired photos they both exchanged laughs and described how they, as a team, started walking around the house talking about some of the things that happened. During this process they had time together to share ideas about these events. Then as a couple, they staged something that they believed to be relevant in the photographs including many elements
of the story. A few participants did not seem to initially understand the connection I was aiming for; this was likely because of my lack of clarity or order when describing the process. Participants did seem to understand by the second session, and when it worked, it really worked well.

**Session preparation.** Challenges related to the photographs seem to be summed up in the phrase, *just tell me what you want me to photograph.* The nature of this project lends itself to a certain level of freedom or creativity on the part of the participant, and this freedom to choose the direction of the conversation can challenge a more concrete learner. Some participants wanted direction on what I wanted in the photo, and it was difficult to give guidance without giving instructions. It seemed at times, just like a student who wanted to see the rubric, these adult learners just needed to know what the right thing to include was. What is the expectation? An example of this is Robert who stated in session one,

> Well I looked over the house and I couldn’t find anything I thought that was a real problem, except what I call those little choke points that you might have a problem getting through. But those just take a few minutes to correct.

I usually offered ideas on being creative, but not on what to photograph, asking participants to think about a time when they were or could have been injured because something was unsafe. Then I would suggest that they take a photo that represents that event, offering, “Do not get on the floor and show me that you fell, take a photo of a banana peel on the floor showing what you think went wrong.”

**Communication of concepts.** With the exception of one participant, they were able to understand using the photo to communicate eventually; and when they did, they produced photographs with well-developed discussions about the events. The photo essentially helped
prepare them for the learning, resulting in rich, thoughtful descriptions of safety challenges.

Many staged photos and enjoyed prompting me with comments like, do you want to ask me why I included this? When staging kitchen photos, I noted that Nancy’s pan handles were turned toward the middle of the stove. Nancy offered, “yep I always do that and you’ll notice I always keep my smoke alarm right there on the stove (laughing).” This photo gave us parameters of a discussion related to kitchen safety and memory strategies when multitasking. This discussion was much more detailed than if we had shared written safety lists or recommendations.

Additionally Nancy took ownership of the topic when she staged the photo. I found that with most participants, the photographs were a positive influence, helping participants prepare for their sessions, as well as helping them develop their narratives. For some participants, this process was slower to take hold than others, as some were less comfortable with abstract instructions. Examples that photographs were a learning tool include participant statements such as, “remember when this happened?” (Gene and Karen) and a discussion with Robert, on the boxes stacked by the bedroom patio door, “I have a fan in there and just a bunch of junk frankly that is stacked up there because I have nowhere else to put it. So technically no one uses that door.” This photo and the discussion advanced to problem solving shown by the statement, “well I could take that fan and put it in the shed, it is really the only obstacle there and it really isn’t a problem, the air conditioner just doesn’t make it that far into the house.”

**Narratives.** Photographs taken by the participants were always an asset to the discussion if the participant used the photograph to help tell a story. Participants who were more concrete about their photos—or used them as a topical list—seemed to have less depth to their discussion, and this may impact their ability to transfer the learning to other areas. Examples of photographs and the discussion summary follow.
**Participant 1.**

*Figure 4.* This well-staged photo of Nancy’s kitchen supported a discussion on throw rugs, memory challenges and better work station planning.

For our third session Nancy included some photos of her kitchen rugs and stove. I enjoyed this third session and believe that the first two sessions were limited by our underdeveloped rapport. In the end, Nancy came to trust my input. But I believe she was quite guarded with me until after we had the conversation about driving during VSee visit two. I like this photo because she went to some trouble to think things through and stage the items she wanted to focus the discussion. Nancy mentioned (quizzing me): “did I see the smoke detector on the back of the stove; would I like to know what happened?” She has a pan and a kettle coming to a boil on the stove top as well as a rolled up throw rug on the floor. I knew when I saw the photos this would be a rich discussion of past experiences. Nancy told me several stories where she came dangerously close to a house fire because she started cooking and then went into another room and started a project, only to return to the kitchen much later to find a hot, or once
a half melted, pan that had boiled dry. Nancy kept the half melted pan on the stove top for many years to remind her not to be careless. At some point the smoke detector was replaced and Nancy kept the old smoke detector and placed it on top of the stove as is seen in the photo. This gives her some reassurance that if she burns an item while cooking, the stove top detector will announce the problem early. These safety problems occurred partially because of her hearing loss, and partially because she likes to stay busy and feels like she needs to have many projects going at once. As Nancy stated, “I tend to turn things on high to get it started . . . and then I turn it down . . . but sometimes I forget to turn it down when I go in on my computer.” This one photo opened the door to a rich discussion about strategies to set up your work station, a variety of alarms styles, strategies to help with memory, and the availability of adaptive equipment in the kitchen to reduce the likelihood of this type of hazard. It seemed, during this third session that Nancy had finally let her guard down; perhaps realizing that I would not be judging her or conspiring to take away her car keys, so she seemed willing to have a more open discussion about solutions. She offered a story,

I was putting everything in my cooler, and I had my hot food in there and I put a rice bag in the microwave for 3 minutes because I wanted it good and hot and I was putting my coat on and I thought, what is burning, the stove isn’t even on and a couple minutes later I thought, something is burning—and then I remembered the microwave! And the rice bag was burned, the cloth actually burned. See there was some time left on the microwave when I put it in, so it could have gone for 30 minutes . . . I don’t know. . . . I could have burned the house down! (VSee session 3)
After considering my suggestion that she was the type of person who liked to stay busy, Nancy offered, “I think I’m just going to have to cut down on what I do. I think I’m trying to do too many things—I don’t know—I don’t know what the solution is.”

**Participants 3 and 4.**

![Figure 5](image)

*Figure 5.* Photograph of a runaway walker to describe an experience when retrieving the mail on a winter day.

Figure 5 (above) came to be known as the runaway walker. Before hearing the story I was reminded of others I have heard in my OT practice, that usually involve walkers with wheels or wheelchairs that are being used, and the user either intentionally or because they become distracted let go when they are on a slight incline and their device quickly rolls downhill out of reach. Gene and Karen’s walker story was even better. Their front drive is on an incline with the mailbox at the bottom of the hill. Their drive also leads down to quite a busy road so they have parking and a place to turn around at the top of the drive. One winter that was particularly icy the couple devised this plan to get out of the house and down the hill to the mailbox on foot. Gene used the walker to get from the front sidewalk, across the level ground, to the tree that is in the middle of their yard. Leaving the walker parked near the tree he then tied a rope around the
tree, and “like a mountain climber does (Gene)” he backed down the sloping part of the yard holding the rope until he made it down the hill to the mailbox. Then he attempted to climb back up the hill, using the rope and then the walker to get back into the house. Gene stated in VSee session two,

I repelled myself out to the mailbox, and then I repelled back up and that rope around the tree was my stabilizing force on that tree. I don’t remember if I used the walker at the same time. I probably did to stabilize myself but I needed the rope to try and pull myself back up the incline.

This is rather clever, and not very safe. The discussion that followed focused on the difference between conquering the job to be done and making good safety decisions. Gene, as usual, was pleased that he had problem solved a way to accomplish a task, and this provided us with a great opportunity to discuss the value of four-legged stability found in the walker and the real likelihood that he could have fallen and broken a bone—rope in hand or not. An 80 year-old person can fracture bones more easily than in their younger years, especially one who has battled cancer (American Society of Clinical Oncology, 2014, para. 13). After finishing the story of the runaway walker, I mentioned the mailbox at the top of the driveway by the house. The couple mentioned that the mailman used to drive the mail up the hill for the last occupants, and he had offered to do the same for them. They then reasoned that it might make them safer if they ask the mailman to drive the mail up the hill on the more difficult days of winter. It would seem that our perception of just how old we are is slow to catch up with the reality of our aging selves. It had not occurred to Gene and Karen that they were now of an age where they should ask the postal delivery person to bring their mail up the drive. This reasoning process led to further discussion on the many ways that public services are modified to help older adults.
**Participant 5.**

*Figure 6.* This photo of sidewalk edge was a part of Beth Ann’s story of rolling a ping pong table down the drive for trash pick-up.

Figure 6 is a favorite, as Beth Ann’s thumb covered a large portion of the photo. We were able to share a laugh about this during our visit. The photo is of the space at the edge of her yard and the surface of the sidewalk. This discussion focused on a time when she decided to get rid of a ping pong table that was in the garage. Prior to heavy trash day, she decided that it should be set out on the curb with a *Free* sign so that anyone who would like to have the table could just pick it up. Her husband had agreed this was a good idea and had agreed to get the table to the curb when he came home. Beth Ann, described this experience in the following way:

Ping pong, not pinball, excuse me. Ping pong. So you picture how top-heavy it is—so we were going to put it out on the side of the road on garbage day, hoping someone would come along and pick it up because it was in perfectly good condition. So instead of waiting for two people to balance it to roll it out to the road, well, Miss Beth Ann got smart and I thought well I can take this thing out there—my husband was playing golf—I could go ahead and put this out there and maybe somebody would come along and pick
it up. Well, just as I almost got to the curb, it started—top-heavy—to fall over. Well, instead of releasing it, I decided I would go with it and I fell off of the curb onto the street onto my right arm and I thought I had broken my wrist—my hand and wrist immediately just got huge. (VSee session 1)

This discussion may have been a great example of impatience with a task meeting the decreased judgment that accompanies early afternoon drinking. Beth Ann was a master at steering the conversation away from any type of connection to her beer, but she was able to recognize that she always liked to be busy and work fast in her younger years and that she still tried to keep the same pace at 71. Unfortunately 71 year-old Beth Ann did not have as quick a reaction time and was not able to make the same fast physical adjustments that a younger Beth Ann may have.

Beth Ann offered:

It taught me a lot of lessons in a lot of ways—to slow down and to realize that I could not do things or recover from something as fast as I used to could. And the last thing I need is a broken bone. So I have been more attentive in so many ways, Lori—about the shoes I wear. Very conscious about the shoes I wear. Like, you know, don’t wear flip-flops and—I just want a shoe that fits my foot and won’t make me trip and fall. I’m more careful in just about in every way—in my life—to stop and think more. Let’s put it that way. Give it some thought. But then on the other hand, I’m so used—I’ve always been a fast person—if you know what I mean. I can’t walk slow.

I suggested that Beth Ann seems to be a fast worker, and she added:

Everything I do, I do it with gusto. And so sometimes I forget to slow down. I just jump up like I’ve always done and go right into it. But I am giving attention to so many more things in my life to be careful with.
Participant 6.

Figure 7. This photo was used as an antecedent to a discussion on the importance of having a safe pathway out of the home.

Figure 7, which centers on the fan, was taken from Robert’s office looking toward the outside door. This is an area that is partitioned off of the west end of the long master bedroom area. This was an example of successful narrative learning with this particular participant. When I asked about this photo I mistakenly identified this area as the bedroom that is now used for Judy’s crafts, an area Robert considered messy and one he did not want to show me during our first face-to-face meeting. Robert had taken the photo to show me there was an outside exit from the master bedroom to the back yard. When he realized that I perceived this to be a cluttered room of Judy’s, he explained that many of these items were not usually located in this area stating:

That is the one off by the computer, and I have a fan in there and just a bunch of junk frankly that is stacked up there because I have nowhere else to put it. So technically no one uses that door.
Our conversation did move to other areas of the home at that point, but I was pleasantly surprised to find that these items had been moved out of the way during my final face-to-face visit. While there were certainly other areas that remained tight on space, it was as if Robert was taken by surprise by my use of the word clutter and then reflected on the photo and space, making later adjustments. This turn of events did please me, as I hoped all of my participants would benefit from this experience. But Robert seemed to be a person who was resistant to the process, and I question whether or not he benefited from participating. His focus, in discussion and in his photos, seemed to be geared toward what I could communicate to him. He wanted to know my suggestions. I always delayed as long as possible in giving recommendations, as I was hoping he would learn from his narrative to apply those past experiences to potential safety hazards. Ultimately when I offered suggestions, they were met with examples of why that solution would not work in their home such as our conversation about the tight spaces in the family room that accompanied Figure 8 below:

We thought oh—we kinda like that ‘cause now we have more room for more than just two people to sit down in the room. So we just left it there, and so it is a little crowded there, as far as furniture goes. And also both legs sweep up on that love seat and we like to sit on the edge and swing up that one leg and kind of stretch out. So that is why we have that one leg that is kind of blocking that sliding door. (VSee session 2)

The discussions were always polite, and Robert was very kind. But I believe his goal for participating was to help me with my study and not to learn ways to make his home environment safer. He seemed quite confident that he had mastered this. His experience may also be an example of the idea that narrative learning is not something from which everyone benefits or values. Robert is a problem solver and looks for concrete solutions. I suspect that he thinks
Robert is someone who an occupational or physical therapist may describe as resistant or non-compliant when completing a home assessment. I am very appreciative of his involvement because it offers a counter perspective to my participants who embraced the narrative learning experience.

**Women’s narratives.** Occasionally the narratives that were initially based on the photograph evolved into storytelling about events that happened to other friends and family. I did not anticipate this type of narrative in my initial plan of study, but was pleasantly surprised when it emerged. As I examined the transcripts, I found that there were times when our discussion started with the photo, evolved into a what if scenario as I attempted to tie the participants past experiences to present and future ones, and then, as if striking just the right cord a participant would share a new story about a time when a friend, sister, or another casual acquaintance had an accident. Sometimes the stories were home accidents or from the
community, but for several of the women participants it was quite natural to share the stories of others, possibly at a safe distance, to help clarify ideas or tie bad decisions made by others to their own safety planning. A story that Karen expanded on included Gene in the scenario, but he contributed only by nodding. Karen stated,

He didn’t say, but we have a step ladder, and we know a woman who is younger than I am and she was hanging curtains using her step ladder and fell and broke her hip, and so I do not want that to happen. I hang on; I love that grab bar at the top (describing her step stool) that I can hang onto. (VSee Session 2)

Karen seemed to know her girlfriend’s experience quite well and her narrative came with a sense of empathy that supported its importance. Karen had used her friend’s injury to make decisions about kitchen adaptions so that she did not have the same experience.

Lynn offered a story of her mother falling over a parking block:

I’ve always been very watchful of those things. My mother—she wasn’t with me but she was with my sister, and she tripped in a parking lot on one of those, and it may have been a crack or something. She broke her hip. She was a little older, and that’s what happens.

Figure 9. Left is the photo used as Lynn shared a story of her mother falling on a parking barrier. Right is the photo which brought about the story of Karen’s friend who fell while hanging curtains with a less sturdy step stool.
Lynn also offered some examples of how she and her sister navigate within the community as they enjoy trips to the symphony and shopping. This exchange shows not only how sisters influence each other, but her continued processing of their strategies.

Lynn: A person’s used to a step at the door, maybe and, well, my sister and I have gotten so that we will warn each other, “watch your step”

Lori: Yes.

Lynn: Just anywhere. It’s just a helpful thing.

Lori: Uh huh. It is. It is. Two sets of eyes are better than one.

Lynn: Oh, absolutely. Yes. We look out for each other and we do not hang on to each other, because if one goes down, there’s no point in pulling down the other one.

Lori: That is true.

Lynn: Just take a cane.

Lori: Yeah.

Lynn: She’s pretty steady that way. She’s the one that told me that. I still maintain my balance but she will let me take her arm, she’s way steadier than I am.

This led to an exchange of how to give and receive support while walking,

Lori: You know, the other thing about that is that it should be you taking someone else’s arm. It should not be someone else taking a hold of your arm if you are unsteady.

Lynn: Is that right? Okay.
Lori: Just because if you were to start to go down, you don’t want them holding on to your arm to try and save you.

Lynn: Okay. You want to roll up in a ball—

Lori: Or you want to grab on to their arm to kind of save yourself. But if they’ve got a hold of your arm and you’re going to go down, you can do some damage to your shoulder as you fall.

Lynn: That’s true. (VSee session 3)

I am confident that the women who shared the stories of their sisters and friends were processing their experiences and incorporating these friend stories into their safety decisions. This perspective seems to be opposite of the one held by Robert who focused much of our discussions on specific problems they were encountering and the changes that he took to make sure that the problem was corrected. An example of a discussion about a grab-bar mounted on the wall at the near the outside of the shower follows.

Lori: Well you sent me some photos of your bathroom, so tell me how the process of getting in and out of the shower goes—

Robert: Yes

Lori: Do you step into the tub?

Robert: Uh huh. Yes well in fact it is primarily there for my wife, she is the one who is more unsteady in that area. I put both of them there over a period of time; they didn’t come at the same time. We had the bar for probably 15 years and then she had a complication and she was very uh—oh she wasn’t very ambulatory. Oh she could get around but she wasn’t very steady and I had to help her with a lot of things. I decided we needed that
suction cup, and I wanted it on the back of the wall while you are
showering so you have something to hang onto while you are showering,
but it didn’t work out very well on that wall so I put it there as you get in
and out it can help you.

Lori: Uh huh, was it just the curve of the shower wall that made it difficult?
Robert: No it just didn’t seem to fit, I mean you like to have a bar at the right
height and no matter how I seemed to adjust it—it didn’t seem to work on
that back wall. (VSee session 2)

Conversations shared by the women about friends who had fallen seemed to be grounded in fear
and concern for the friend and a focus on incorporating that friend’s story as foundation for their
fall prevention. Stories shared by the male participants were more analytical and focused on the
steps taken to prevent future accidents.

**Collaborative cognition.** An emerging concept became relevant as I examined the
experience of Gene and Karen, the married couple participating as a team. They seemed to
collaborate about the photographs, home safety topics and solutions, and this may have improved
the quality of their learning experience. It is also relevant that Gene identified that the tasks
related to managing their lives, such as driving, had become a “two man job.” Gene went onto
describe a safe driving strategy as, “we practice one already,” described as follows:

I learned from another elderly person who was gonna take a driving test and his stopping
far enough behind them that you can see their rear wheels as you sit behind them on the
road. So that, so many people will get up right behind someone on their bumper but it is
a good idea to stay back far enough that if he is gonna high-jack ya, or something like
that you can make a sharp turn and get yourself out into traffic and out of a situation by staying far enough behind when you park. I mean come to a stop. (VSee session 3)

This safe driving strategy, recommended by a friend, is an example of how the community mobility task of driving is modified by older adults as they become more aware of their vulnerability. The collaborative cognition demonstrated by the “we practice one already” statement and session one phrases about shopping where Gene did the driving but Karen navigated so that he could know when the shops were coming up on the route. These ideas show that Gene and Karen see their partnership as something that is foundational to their functioning—not only in large projects such as child rearing and managing a home but also during more mundane tasks such as driving.

This collaboration served Gene and Karen well as they worked together on staging photos, shared ideas and stories related to the photos and offered insight into how their traditional roles within their marriage had evolved over the years. Additionally, the process of building rapport was a bit easier with participants who were married. I developed good rapport with all of the participants eventually, but as I read and reviewed my transcripts, the early discussions that were more open and friendly were with Gene and Karen. Other non-married participants, Nancy and Lynn, seemed to be a bit more cautious in our early sessions, discussing the expected topic, but keeping a polite distance regarding the underlying reasons behind a safety challenge.

**Confidence versus control.** Most participants were quite confident in their lives and their capabilities. This was also a part of their fearless use of technology. I expected them to be apprehensive, but when processes or technology failed they seemed to laugh and shrug it off more often than not. The participants were also confident in their ability to manage their own
homes. However, there were some discussions where it was difficult to determine if the confident statements expressed by the participants were used to deflect or control the conversation. All had experienced accidents or events that caused them to question their abilities, but while they were able to entertain ideas of what to do differently, they seemed to be quite comfortable with the idea that they were human and likely to make an occasional bad decision. After discussing a fall when getting in and out of the tub with Nancy, I suggested that she could call her daughter and let her know when she is getting in the tub. Her reply, “Oh ho, ho, ho, ho; No, no, no, no (laughing)—maybe when I’m 90,” seems to indicate that she is confident in her ability to take her bath when she prefers. This need for privacy and control over her life were confidently asserted, despite the injury that occurred from a previous slip.

The participant that likely had the least confidence, yet exercised the most control is the one that caused me the most concern. Beth Ann worked very hard to put forward a positive attitude. In this case, I suspect this is more related to control than confidence. When she would briefly make statements about drinking such as, “people aren’t drunks anymore, they’re alcoholics; we used to just call ‘em drunks,” she is at times trying to interject the topic of her drinking into the conversation to move the safety discussion along, steering the conversation onto her terms. She did not want this very real problem to become a part of a safety related discussion, and she used her laughter, jokes, and persona to deflect any deep or uncomfortable discussion. She would also interject statements that were self-deprecating, such as “Oh, well, it was all stupidity on my part” or “Miss Beth Ann got smart.” These occurred during the story of moving the ping pong table out to the curb. It is difficult to determine if these quotes really represent a lack of confidence or if Beth Ann just wanted to quickly acknowledge her responsibility to prevent me from making the suggestion that the accident was related to her
drinking. This exchange with Beth Ann about seeking medical attention after falling indicates she is using her control to avoid judgmental conversations about her actions:

Lori: Did they know you fell; did your family know you fell right away?

Beth Ann: No.

Lori: Is that why you didn’t go to the doctor?

Beth Ann: I didn’t tell my—actually, you know I can’t remember when I actually told my family. I don’t know if I told them the next day or if I told them when I went to the —whoops, I lost you again. I cannot remember, no, I didn’t tell anyone I know, for some days. Not a soul, because I felt so stupid.

Lori: Well now, I’m pretty sure your family doesn’t think you’re stupid.

Beth Ann: Oh, I think they do. (Beth Ann laughs) Well, I’m talking about, they don’t think I’m stupid stupid, but in that incident they thought I was stupid because if it’d been my husband, I would have called him stupid. (VSee session 1)

These exchanges often involved a give and take that offered brief disclosure or small insight into the decision making process before and after an accident. The exchange was accompanied by confidence in their opinions from the safe position of an outside viewer, and provided examples of self-deprecating comments, and information control to the extent of delayed medical attention so that loved ones would not step in and make decisions.

**Procedural Findings**

To answer the research question, what is the process of home safety education with older adults as it is delivered in a web-based synchronous format, this study was unique in bringing
together several concepts to develop and examine methods to deliver patient education. My understanding of patient education is well developed as it occurs in a rehabilitation setting where individuals are attempting to remediate cognitive deficits after injury or to adapt to cognitive decline as a result of progressive illnesses. Moving toward a focus on wellness in many areas of healthcare suggests that providers may benefit from a better understanding of adult learning theories and strategies. Within this study, I examined the use of digital photographs as preparation for—and an antecedent to—narrative learning among community dwelling older adults who are well. Additionally, the use of web-based video communication was used to see if adult learning strategies could be of benefit in telehealth, an emerging area of occupational therapy practice. Many challenges, failures, and successes occurred throughout this project. Within this section information is shared related to the process, to allow others who attempt patient education via telehealth to better prepare for the challenges.

**SAFER-HOME, v. 3.** In addressing the research question, does the combination of personal narrative and digital photographs impact home safety as scored by the SAFER-HOME v. 3 (Appendix A), I did not anticipate any large changes when using this assessment tool because these older adults are healthy, independent community dwelling individuals. The changes made to their environments were subtle and did not result in large numerical changes. This assessment tool was not selected to measure learning. It was selected to help determine whether or not individuals were making use of their learning in a functional way. Most participants, as indicated in the table 3 below, showed slight improvements that were often attributed to reducing clutter that allowed for a wider pathway or reducing trip hazards of things like throw rugs or mats.
Table 3

**SAFER-HOME, v. 3 Results**

<table>
<thead>
<tr>
<th></th>
<th>Initial Visit</th>
<th>Final Visit</th>
<th>Change</th>
</tr>
</thead>
<tbody>
<tr>
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<td>14</td>
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<td>-8</td>
</tr>
<tr>
<td>Participant 2</td>
<td>3</td>
<td>4</td>
<td>-1</td>
</tr>
<tr>
<td>Participant 3 and 4</td>
<td>11</td>
<td>8</td>
<td>-3</td>
</tr>
<tr>
<td>Participant 5</td>
<td>9</td>
<td>6</td>
<td>-3</td>
</tr>
<tr>
<td>Participant 6</td>
<td>4</td>
<td>4</td>
<td>0</td>
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</tbody>
</table>

*Note.* Negative scores indicate fewer home safety issues.

I did not discuss the numerical results with the participants during the concluding session, but I did mention when changes made to the environment contributed to the numerical changes.

For example, when completing the SAFER-HOME, v. 3 (Appendix A) with Robert, I noticed that he had moved several boxes and stacks of paper out of the traffic path that leads to the bedroom door and I stated that “I’m glad you have a little more space to get out if you need to.” I made these comments in the hope that some encouragement would help transfer that learning into other areas.

**Abstract versus concrete photos.** Examples of this theme can really be summed up in one statement, *Just tell me what you want me to take a picture of.* This concept is easily tied to my experiences as a student, I enjoy learning experiences that allow me to explore, but I also appreciate some structure at times. Creativity seems to emerge when there is a genuine curiosity or passion for the subject, but not all learning seems to happen in this way. Certainly home safety is a concrete issue, and I was asking for an abstract way to explore this topic. Students in higher education often experience learning that does not inspire passion and with this topic, just as a traditional lecture, there can be a tendency to be a more passive recipient of information. This was true for many of my participants as well. Participants Gene and Karen were the most enthusiastic participants who seemed to embrace the abstract use of a photograph. All of the
other participants, at some point during their work, were challenged to know just what to include and sought out my ideas. An example of this from Robert during VSee session 2: “I don’t know what we will talk about—I’m really just a couch potato” and “well I looked over the house and I couldn’t find anything I thought that was a real problem, except what I call, those little choke points that you might have a problem getting through.”

![Figure 10](image). This more abstract photo on the left was staged recalling a time when stepping on a fallen walnut led to a twisted ankle. On the right is a more concrete photo, ironically about concrete, showing that uneven concrete is a trip hazard.

Additionally an exchange with Beth Ann,

Beth Ann: A picture of something—well, that going to be—I’ve had a driving challenge before and, in several ways.

Lori: Okay.

Beth Ann: I’m not sure, I’m not sure I can send you a picture of like ice on the road.

Lori: Okay.

Beth Ann: I don’t know how I’m going to send you a picture of that.

Lori: Well, you don’t have to, just something that reminds us, something to get us talking.

Beth Ann: I could send you a picture of my car and that would get us talking.
Lori: Okay. Whatever inspires you, Beth Ann.

Beth Ann: Would that be okay?

Lori: That would be fine. It’s up to you. (VSee session 2)

This exchange led to a very concrete photo of Beth Ann’s car as it is parked in her garage seen below in Figure 11.

Figure 11. Beth Ann’s car parked in the garage.

Each participant was asked to recall an incident where they had a fall, an accident of some sort or even a near miss. Then, they were asked to take a digital picture of something that represented that event and send me a copy prior to our session. I had hoped that these open instructions would be enough, but most participants needed some sort of example to focus their photos on a specific topic or area, such as kitchen safety. For some participants this additional prompting was not adequate, and they needed specific examples. There were certainly times with several participants where they seemed to be saying, just tell me what you want me to photograph. I would then suggest if they wanted to discuss a time when they fell, they should try to take a picture of the area, or set up something in the photo that would remind them about the experience. Gene and Karen took these instructions and were quite successful in using photo
elicitation to support narrative learning. This couple took the opportunity to collaborate and discuss past events around their home; they talked about all of the relevant aspects of the environment and were happy to share those experiences in rich detail. Prior to our first session, I received 13 photos with stories to fill all three of our online sessions.

Lynn also took an abundant number of photos, 12 in all. Most photos were similar and related to falls, or locations that could cause a fall, in and around her home and community. Discussions about Lynn’s safety challenges were more productive when we moved away from the photos, and discussed her plans and daily activities over the past or upcoming weeks.

During our second session she sent me several neighborhood trees, shown in Figure 12 below. It was autumn, and when I asked why she had taken a picture of one her response was, “I just thought that was pretty.” Moving away from the notion of fall safety was difficult with Lynn, and she regularly assured me that all other areas were fine. Lynn was not at great risk for a fall and had only experienced one near miss. Her challenges relating to safety were often tied to her fatigue and reduced endurance, and these may have been more difficult to capture in a photograph. Nancy and Beth Ann each sent one photo prior to their session and needed some

Figure 12. Lynn photographed neighborhood trees because she enjoyed them, noting the ironic sign as members of a community of older adults were being asked to not climb the trees. 
suggestions for areas or topics. They were not comfortable with the abstract style of a representative photo and preferred clear specific instruction as this exchange with Beth Ann indicates:

Lori: Why don’t we focus on the bathroom if you want and some places in your house where you think you have that you think could be a challenge?

Beth Ann: So, I’ll send you a picture of the bathroom, is that what would you like?

Lori: Whatever inspires you. Try to think of things that, whether you want to change it or not, in the back of your head you could see being a problem, either now or someday.


Lori: Because I want to hear what your thoughts are about it.

Beth Ann: Well, the bathroom is one of my big thoughts. (VSee session 1)

These participants were also fairly concise with their narratives about the photos. Nancy became more creative and open as her trust in me grew as shown by the many safety issues shown in her kitchen photo (Figure 4). Beth Ann seemed to maintain a focus throughout that she was a part of the study to help me. She would do whatever I needed. This helpful perspective seemed to limit her ability to really reflect on her experiences.

**Rapport.** Building rapport that puts participants at ease took longer in this online format than anticipated. This is possibly one of the ways that technology can limit human interactions while facilitating communication. Building rapport is something that I have not given much thought since the early years of my occupational therapy practice. Over time I came to rely on my expertise more confidently. I focused less intentionally on rapport building, believing that there were patients who would appreciate my style and others who would not. In either case I
was a good therapist, and they would value my expertise. This project required that I focus very intentionally about building rapport with the participants. The initial face-to-face visit provided enough human contact to get us past the technology challenges, but maybe not enough that my participants were fully comfortable disclosing their past safety experiences. I also found it a challenge to balance my role as an educator and my longer term role as an occupational therapist. As the researcher and the home safety educator, I was committed to helping my participants learn through their photographs and narratives. This required much more listening than I am accustomed to and it was difficult to resist the urge to offer advice on adaptations or environmental changes as an occupational therapist would.

I found it difficult to draw the distinction between a roadblock that is tied to rapport and an individual participant’s need to maintain control over their privacy and home space. I am hesitant to assign adjectives such as resistant or stubborn versus willing or open, as each case scenario seems to have its own unique characteristic. Nancy seemed initially timid about the project and after meeting me was willing to participate. She looked to me initially to guide her photo choices and usually sent a photo tied to our previous conversation. She was always polite, friendly, and willing during our sessions, but it was not until our third VSee session that she took ownership of selecting and staging a photo that contained all of the elements that she felt were important. This could have been a product of her level of comfort with me. Initially resistant, by the third VSee session she had come to trust me and realized that I was not there to tell her what to change, or report my findings to her daughter. This may have also been a fortunate bit of misfortune, during our last discussion Nancy told the following story:

You know what I did this weekend—just three days ago. I was taking hot food over to my daughters, we were serving a Chinese meal and we wanted everything good fresh and
hot, so I was putting everything in my cooler, and I had my hot food in there and I put a rice bag in the microwave for three minutes because I wanted it good and hot and I was putting my coat on and I thought, what is burning, the stove isn’t even on and a couple minutes later I thought, something is burning? And then I remembered the microwave! And the rice bag was burned, the cloth actually burned. See there was some time left on the microwave when I put it in, so it could have gone for 30 minutes—I don’t know—I could have burned the house down! (VSee session 3)

Also, prior to our final face-to-face visit, Nancy had asked a workman to look at something in her home, and as he entered he slipped off the front landing and fell into the dining room table hitting his head. When I arrived at her home for our last visit, she seemed surprisingly eager to work with me, and I believe this event had encouraged that. Until our last visit on VSee, many of our conversations focused on descriptions of the events, but Nancy considered those events to be rare or even one time occurrences. On our final visit she seemed quite eager to get my opinion on many areas in her home that we had never discussed before. I had become a trusted consultant and no longer someone pushing into her privacy. By my calculations, Nancy and I worked together for nearly three hours before she began to be open to our work.

A positive example of rapport was found with Gene and Karen. This couple seemed to embrace their participation as well as me. As I sort through all of these experiences, I wonder if it was easier for our rapport to develop because as a long time married couple they seem to share the learning, the planning and the decision-making related to home safety. Gene and Karen were both invested in safely moving forward through life and were very willing to bring me into their process. It was as if the security that they felt in their relationship together allowed them to explore home safety projects with less suspicion than older adults who live alone. They were
simply open to sharing their stories as well as any suggestions that I offered to make things a bit safer. It is also possible that our rapport was better because we spent more time together in longer VSee conversations, and that time was simply the best way to develop trust. Additionally, there were always three of us in a session, which may have provided more opportunity to keep the conversation going—more time spent sharing laughs and problem solving those past experiences. Each was able to participate as an individual with the knowledge that his or her spouse was looking out for them and so the sessions never took on a resistant or defensive feel. Gene and Karen were more confident, so sharing their rich narratives was more willing and the discussions that evolved were more productive.

Two participants, Nancy and Beth Ann, offer examples of how long it took to build rapport. Early sessions with Nancy (related to grab bars when getting out of the tub) were as such:

Nancy: Yes, it’s much easier. Well, I don’t need to do that yet. (chuckle) I can still stand up. I can stand up real good.

Lori: Um. I can tell you that it’s better, to push than it is to pull.

Nancy: Right.

Lori: Because you’re stronger for pushing up on those muscles on the back of your arms than you are to pull from that grab bar. I like the idea of turning over onto your knees and then putting your bottom up on the side, you know, on the side of the tub.

Nancy: Well I don’t need to do that yet.

Lori: Yes. Has anybody talked to you about a seat in the tub or a bench? Do you know about those kinds of things?
Nancy: Oh yeah, that’s for when I am older (she laughs). (VSee session 1)

Later sessions were met with more enthusiasm; it was as if she became comfortable with the idea that I would not be telling her what she should do. And over time she seemed more willing to share some past challenges and how she makes adaptations:

Lori: So you have good safety on your stove top, it reminded me of home ec. class where they tell you to move your handles to the middle so nobody gets hurt.

Nancy: (Laughing) Yep I always do that and you’ll notice I always keep my smoke alarm right there on the stove (laughing).

Lori: Well I was going to ask you what that was.

Nancy: I need it there.

Lori: Okay—

Nancy: But it doesn’t keep things from burning.

Lori: No—you just get a faster warning

Nancy: I tend to turn things on high to get it started, and then I turn it down, but sometimes I forget to turn it down when I go in on my computer.

Lori: Ah.

Nancy: And I think if my computer was in the kitchen it would be a lot better (giggle). I could hear it. (VSee session 3)

During this final session Nancy had finally let her guard down, brought several items that she knew were problems together into one photo, and felt comfortable sharing that she had trouble remembering. This was a comfortable open experience that we would not have been able to share earlier in our sessions.
Beth Ann was kind and friendly, as all of the participants were, but her resistance showed in rather unique ways. She certainly welcomed me in, but there was always the underlying thread that she knew what she would hear from me, because she had heard it all before. She was happy to outline the topics that she already knew of, but would likely do nothing about. This included her beer drinking, which she openly stated that she had no intention of changing. Beth Ann was very adept in conversation when deflecting discussions that would lead her to reason about her drinking. She used humor to deflect a discussion on driving in Atlanta traffic to visit family, but as the story unfolded it became clear that when and where she would be able to get off the road and enjoy “some suds” was an underlying part of the travel plan.

We had discussed going a ways and stopping and spending the night, but it’s like I said, who wants to stop at two o’clock in the afternoon. Unless we could just leave home later in the day and get in there about five o’clock, the traffic through Chattanooga is not bad. Even Nashville doesn’t bother me so we could get in there kind of late, five or six o’clock in the afternoon and then walk around. ‘Cause when I get out of the car I like to walk around anyway, stretch my legs and then, have myself go back, and have a couple of beers, and then go eat supper. Well by then it’s eight or nine o’clock and I’m ready to relax. (VSee session3)

Working with Beth Ann was a good reminder of how singular of focus an alcoholic can be while deflecting any discussion away from their addiction. In reviewing transcriptions it became clear that our rapport was friendly, but never contained any real level of trust. In this case as well, opportunity and timing entered the picture and during our final face-to-face visit I noticed that several of the throw rugs at the entrance had been removed. She pointed them out during our discussion, indicating that she had decided she did not need them all. I left that
session feeling as if I had made some headway with Beth Ann’s safety awareness, but later learned from a colleague who had referred her that she had fallen on these same rugs coming into the house from the garage one afternoon and had been injured again. It was clear that she had hidden all aspects of this fall from our last conversation and preferred to portray a successful experience. To help people make changes to their home and patterns of living a certain level of trust needs to be developed. These participants were less willing to consider changes until they knew me better and felt comfortable discussing the root causes of problems. It is relevant to occupational therapy practice that this did not occur in one visit with most participants.

**Technology.** Every conversation I have had regarding this project has always included the question, how did the older adults handle all of the technology? My confident response is that the older adult participants were quite unflappable in their use of technology, and willing to do what was needed to be successful. Technology creates a challenge for intermittent users with its constant evolution, and inconsistencies in the software that slows the work process. Inconsistent functioning that would never be accepted in our vehicle or our household appliance operation is tolerated in our computers and their software. The older adults in this study were confident in their own right, and quite comfortable with the use of technology. They did not seem to allow its challenges to interfere with the work process. There were certainly challenges with my ability to navigate problems given the variety of computers and the differing levels of participant skill. These older adult participants seem to be confident in their abilities, which allowed them to laugh at themselves and the process without internalizing any of the challenges.

Participants understood their technology struggles and I found no examples of these challenges making them anxious. Comments related to technology challenges include the discussion following Beth Ann’s first picture with her thumb over the lens: “Well the picture was
pretty anyway, wasn’t it?" Response (Lori): “It is—you know it’s got your thumb in it.” Beth Ann: “It has my thumb in it? My thumb—oh (laughter).”

A challenge related to an unexpected technology came when Nancy’s hearing aid battery was low and ran out during our session. For the remainder of our session she covered by smiling and nodding at me, but offered little information. It was only later during transcription that I came to recognize how poor her hearing was and how much of our second session was limited because of the loss of this hearing aid battery. Examples were, “My hearing aid just signaled that the battery may need replacing so I may not be hearing you very good.” And later this exchange took place:

Nancy: Ummm, and just walking around the house, I guess, and the rugs seem to be the problem. My feet just don’t seem to pick up like they used to.

Lori: Okay.

Nancy: Okay.

Lori: How about, let’s say we continue talking about falls, but we’ll talk about some other areas of your house.

Nancy: Take a couple of pictures and send to you, of what?

Lori: Of places where you’ve had a near miss.

Nancy: Oh. (VSee session 2)

During a session with Lynn, my own anxiety with technology was felt as she was in the middle of discussing a long stumbling near miss that she had experienced, when our connection was lost. Lynn explained:

hard to tell, it was just like I was diving forward and I kept flailing with my arms and kept going and kept going and I thought oh my God I’m going to go straight through the
window—But I managed to get stopped because there is a chair there and a good heavy table and I managed to get stopped without going down on even one knee and uh—I was just trying to get my balance and (disconnect). (VSee session 1)

Once we reconnected, I prompted Lynn to finish and she offered, “well yeah, well I don’t know what else—that is really all there is about that.” While I had initial concerns about older adults and anxiety related to technology, I did not expect that the anxiety would be mine.

Overall, the participants were unflappable. They seem to see technology as a way to communicate, but they were not emotionally tied to the workings of technology any more than they were tied to the workings of their blender. An alternative view of older adults and technology could be that technology is still unreliable, and that older adults, with a longer view of life’s challenges are just not as committed to mastering this tool. Numerous times a day internet services can slow or be interrupted and it has become so commonplace that regular users make these daily adaptations. Infrequent users may have a different view when experiencing these interruptions and may internalize these failures as their own. Participants in this study did not show any cognitive challenges that prevented their success when using technology and communicating with the VSee software program. These older adults experienced challenges related to technology, but only when the technology failed. I see the perspective that older adults do not do well with technology as similar to the perspective that older adults do not drive well. It is important to sort out what is a true limitation of the individual and what is folklore or bias.

**VSee.** VSee is a web-based video communication program that is recommended for telehealth practice because of its privacy protection capabilities. Because this study was self-funded, I chose to use the free version. Based on the website recommendations, this version should have been adequate for this study. VSee offers end-to-end encryption, meaning that no
data regarding the transmission is stored on an outside server. This is important because the only record of a healthcare related session is in the possession of the provider and recipient of services. Additionally, this program is a benefit because it requires a low bandwidth, allowing decent performance on older model computers. Both of these features are important but also offered challenges. It is possible that I would have had a more consistent experience if I had purchased one of the subscriptions that VSee offers. To insure the accuracy of my transcriptions, I attempted to use the recording feature offered by VSee. After practicing with my own parents, I learned that the recording produced was actually two recordings, no doubt determined by the end-to-end encryption. When transcribing, I needed to type the recording of my side of the discussion, keeping track of the recording timing for accuracy; then I transcribed the participant portion of the recording, being careful to align the conversation. To my disappointment, I found that one of my richest sessions was only partially recorded, and I unfortunately had to rebuild the participant story using my words and reactions as a type of memory cue for our session. This was a very disappointing loss, and while the participant agreed to recreate his story during the following session, much of the organic nature of the storytelling was lost as we attempted to recreate the experience. After this experience I downloaded Audacity, (Mazzoni, 2008) which allowed me to audio record future sessions from my computer, but audio only recordings were all that I had to transcribe from, it was more difficult to both conduct the session and be my own field observer. A clear and accurate video recording allowed me to both conduct and observe the exchanges shortly thereafter. This also allowed me to both adjust my style as well as the type of questions I was asking in a more effective manner. Additionally, losing this session and never fully understanding why also made me very intentional about my scheduling, as I was afraid that having sessions too close together would not allow me enough transcription time should I need
to recreate portions from memory. In the end, using a dual recording method did ensure that I had accuracy in transcription and was an important change, as I had some problem with at least one recording on five out of my six participants.

Low bandwidth was also a help and a hindrance when using this software program. It was a help because I was able to load the software on older computers, but there were also times when it seemed that the slightest fluctuation in internet provider services seemed to pixelate images or cause a loss in audio. Additionally, the reduced bandwidth simply does not offer the same clear image that is offered by other popular software programs such as FaceTime or Skype. With a study focused on learning through the narration of a story, there were times when losing connection mid-story was quite disruptive and could result in participants being unable to remember where they were in their story once that connection resumed. An unexpected surprise was that the video recordings, because of the end point encryption, seemed to have a higher audio/visual quality than the actual session in real time. This enhanced my reflective journaling as well as observational field notes.

**Plan for technology support.** While I am by no means a computer expert, computers have been a part of my personal and professional landscape for more than 20 years. I am a daily user of several forms of technology. Despite this familiarity, it would have been very helpful to have someone with which to discuss technology issues, or to have someone to call for support when adjusting to things like Mac or PC software installation differences or how to help my participant users who were often less familiar than I, with their systems. Traditionally a PC user, I was met with an unexpected challenge as I attempted to download VSee software on a Mac computer. I was very careful to follow the instructions provided by the VSee website but was unable to successfully complete the installation. When my installation questions were not listed
on the website frequently asked questions page, my attempts to contact the company through the website, went unanswered. Unfortunately I had to end this participant’s initial visit on time because of their obligations and I needed to reschedule visit one to complete the software set up. This rescheduling allowed me the time to discuss the process of software download with a colleague who is a Mac user and gain a basic understanding of the process before returning to complete my second set up visit. I recommend having tech support to help with understanding the processes as well as improving communication with participants with challenges.

**Discussion**

This section includes a recasting of the findings through the lens of the existing literature as it relates to the use of participant-generated photographs as a part of narrative learning. Additionally, this section considers the influence of technology, and participant factors such as confidence, collaborative cognition, rapport, and gender differences in narrative learning. The reader will find information on the findings related to these research questions and how these concepts are viewed in the existing literature.

This project began with the following research questions:

- What is the process of home safety education with older adults as it is delivered in a web-based synchronous format?
- How does the use of narrative learning theory enhanced by photo elicitation facilitate older adults’ home safety?

Subsequent questions included:

- What are the participant experiences with managing home safety issues?
- Are there demographic characteristics of older adults that can influence home safety decision making?
• Does the combination of personal narrative and photo elicitation interviews impact home safety as scored by the Safety Assessment of Function and the Environment for Rehabilitation-Health Outcome Measurement and Evaluation, version 3 (SAFER-HOME v. 3) (Appendix A)?

• How does the use of personal narrative and digital photography impact an individual’s awareness of safety challenges in their home?

• How does narrative learning and photo elicitation support existing theories of change when addressing home safety?

• What insights about safety issues in the home and community are gained through photo elicitation and personal narrative?

Photographs. Consider this research question, how does the use of personal narrative and digital photography impact an individual’s awareness of safety challenges in their home? There is an abundance of literature related to the use of storytelling and photographs as educational strategy. I found no evidence in the literature of these tools being used to directly influence home safety. Gidman (2013) wrote about the use of patient storytelling to help student nurses understand their patient’s experience. The author recommended that while student nurses learn from this storytelling experience, it is up to the educators to understand this educational process and build upon its value by facilitating student reflection. This is different from the notion of the storyteller learning from the process of telling their own story. The present study supports the value of combining photographs and narrative. The reflection experienced while taking photos and then discussing the stories behind the images was powerful. This reflection supported change in insight as well as environment. This reflective process shown by participants Gene and Karen who examined their experiences as they staged photographs prior to
the session, discussing all of the pertinent safety related info that should be included. These participants were also good examples of how telling the story of the photograph and safety experience during the online session was productive in tying that experience to potential problems.

They reflected on the experiences of their friends and family as well as their own challenges and were willing to discuss the relevance of needed environmental modifications to new areas, developing their narratives into future safety planning within their home.

This level of reflection was difficult for participants Robert and Beth Ann albeit for different reasons. Robert seemed to value concrete examples and experiences and may not have experienced the same depth of reflection when staging his photographs and also seemed stymied when the discussion attempted to tie those photographs to potential problems in his home. Robert seemed to see his role as the family problem solver and each time the couple had experienced a safety problem, they sought out advice, made and implemented a change. This process has worked well for Robert and his wife, so he was less inclined to dive deeper into a reflective experience and tie the past issues to potential ones. He perceived the problem to be fixed after the past changes were made. This very concrete example of using the photograph runs counter to a study by Janzen, Perry, and Edwards (2011) who stated, “Photovoice as an artistic pedagogical technology supports the existence of authentic voice, fulfills the criteria of being an authentic medium, and provides a channel for authentic statements” (p. 12). These researchers question the possibility of creating a “social presence” by projecting oneself in an online educational experience. This social presence is important in developing cohesive collaborative communities that facilitate unguarded communication (Garrison, 2007). They examined, through content analysis, the responses of health professions students to course
photovoice activities. Janzen et al. (2011) found numerous types of authentic statements in the data that indicate support for photovoice as a part of an authentic interaction. Robert’s photographs did not open a door to relationship building and therefore did not add a social presence to his educational experience—nor did they help facilitate our unguarded conversation. He was taking a photo because I asked and simply offered a show and tell type story with no anticipation that he may benefit from the experience.

Beth Ann was agreeable to reflection and the process of narrative learning, but maintained that her willingness to help was for my benefit. This surface level cooperation offers another example of a challenge to an authentic interaction. It may have been a way to help maintain control about the topics and the direction of the discussion. I can only hope that she reflected on the underlying causes of her falls and near misses. She was quick to say that she made “stupid” mistakes, or that she was “going too fast,” but it is possible that relying on these surface reflections allowed her to steer the direction of the narrative away from her drinking. She was quick to use self-deprecation and humor to deflect, avoiding any real reflection that would promote change.

**Narratives.** Narratives within this study were unique based on participant’s individual experiences. Each had unique stories about home safety, and while abundant data was collected about their safety experiences, the objective of this study was to examine the process of this learning experience. While their narratives were rich and unique, the participants in this study were a homogenous group culturally. With any examination of a learning experience, the many influences on this project make it impossible to say there was any one particular characteristic or event that demonstrates that learning occurred. Additionally, just with any teaching/learning experience, the enthusiasm of the student is most influential variable, and in this study when the
participants valued the process and thought creatively about their experiences and their photos, they seemed to derive a greater value than participants who were more traditional in their views of an educational experience. Participants who were reflective as they staged their photos and were open in the telling of their stories simply embraced the process and derived a greater benefit.

Researching this notion of concrete versus abstract learning led to the discovery of a paper on the concept of temporal construal by Trope and Liberman (2003), which offers another dimension to the experiences of participants. Construal is a term to describe a person’s subjective perspective or worldview. The Oxford dictionary online (2014) defined construe as “Interpret (a word or action) in a particular way” (para. 1) and construal as “the act of construing or interpreting” (para. 1). Trope and Liberman (2003) proposed that “temporal distance influences individuals’ responses to future events by systematically changing the way they construe those events” (p. 403); specifically, “individuals form more abstract representations, or high-level construals, of distant-future events than near-future events” (p. 403). The authors indicated that these temporal descriptions do not have to be in the future and could be distant-past compared to recent past events just as easily. They said: “judgments, predictions, and choices regarding the more temporally distant events are likely to be based on higher level construals of those events” (Trope & Liberman, 2003, p. 403). It is possible that participants photographed and discussed their safety narratives more or less concretely given the amount of time that passed since the event or given the expectation of future potential events. Participants did not identify any time frame, duration, or distance related to their safety narratives that would allow me to make this connection.
Women’s narratives. In considering the research question, what insights about safety issues in the home and community are gained through photo elicitation and personal narrative, I was pleased to find a naturally occurring style of narrative with my female participants. This finding has potential for future research that considers gender variations on narrative learning and storytelling in health care education. It is of note that the women participants in this study told friend stories about accidents and safety modifications that were made by people they know. These friend stories were used to address safety concerns and to reinforce previous decisions and adaptations made within the participant’s home. “Connected knowing” is characteristic of women’s ways of knowing, identified by Belenky, Clinchy, Goldberger, and Tarule (1997) who stated “connected knowers develop procedures for gaining access to other people’s knowledge” (p. 113). These procedures center on an individual’s ability to empathize. Connected knowers in this study, Karen and Lynn, were able to take their friend stories and develop a level of empathy about the friend’s experience and incorporate this knowledge into their patterns of living. Belenky et al. (1997) went on to state that “Sometimes, but not always, a woman adopts another person’s ideas as her own. Through empathy she expands her experiential base; she acquires vicarious (secondhand, firsthand) experience and so expands her knowledge” (p. 115). This experience was evident as Karen described her friend’s experience when hanging her drapes while standing on a foot stool: “she was hanging curtains using her step ladder and fell and broke her hip, and so I do not want that to happen. I hang on; I love that grab bar at the top that I can hang onto.” This narrative seemed to solidify her understanding as she inhabited this shared story. Lynn also shared a friend story about her mother falling over a parking block when shopping with her sister:
My mother, she wasn’t with me but she was with my sister and she tripped in a parking lot and it may have been on one of those, and it may have been a crack or something. She broke her hip. She was a little older, and that’s what happens. (VSee session 3)

Literature regarding narratives and women’s ways of knowing is available regarding leadership (Grace-Odeleye, 2007; Helsing, Howell, Kegan & Lahey, 2008; Morales, 2008), and certainly in the literature related to psychosocial development (Bryant, 2007; Easter & Schommer-Aikins, 2009). Grace-Odeleye (2007) examined the role of forgiveness in the leadership of female senior level university administrators. She found that these women identified forgiveness as reducing negative thoughts like blame and anger, and that they said they utilized forgiveness more often than men (2007, para. 1). Helsing, Howell, Kegan and Lahey (2008) examined professional development in an educational leader. Morales (2008) examined how women of color in higher education “approached familial resistance” to their success (p. 197). But I found no literature regarding specific home safety decisions or how women use the narratives of others to make safety decisions. Given the growing number of older adult women living alone it is important to consider how this sharing of friend information, this connected knowing (Belenky et al., 1997) can influence home safety.

**Collaborative cognition.** Gene and Karen, working as a married couple participating in this study, provided a unique view into what previous researchers described as collaborative cognition (Berg, Johnson, Meegan, & Strough, 2003; Dixon, 1996; Dixon & Gould, 1996). Strough, Cheng, and Swenson (2002), regarding collaborative cognition, stated, “solving problems with other people may allow older adults to compensate for age-related declines in their problem-solving ability and age successfully” (p. 26). Strough et. al (2002) used survey research to look at problem solving methods and found, in stereotypical male/female roles, with
men providing household repair tasks and women providing cleaning and meal related tasks, men preferred to problem solve alone with household repair tasks and preferred collaboration when preparing meals. Women preferred to problem solve alone when it came to meal preparation, but preferred to collaborate when it came to household repairs. These results seem to indicate that individuals seem to seek out collaborative cognition with they are less sure of their abilities. This was apparent during VSee session three when Gene was cooking the soup under Karen’s supervision, and reported that he was learning how to do the laundry as they prepared for the possibility that Karen was facing a possible health problem. This collaborative cognition was also apparent in their discussions on driving. Gene indicated that this task had become a “two man job” during session two.

Vrkljan (2011) examined how older adult married couples learned a new technology in a collaborative way. Participants were divided into two groups one that was experienced (both of the couple have experience) with technology and one that was less experienced (one or neither of the couple have experience) with technology. Then, using a simulated driving environment, the couples were instructed on the use of a plug and play Garmin GPS device. Ability to operate the device was scored and compared across groups. The author identified Vygotsky’s zone of proximal development as relevant in that “in certain contexts an experienced partner will scaffold or support their partner in order to facilitate shared performance when learning a new skill” (Vrkljan, 2011, p. 138). Gene and Karen shared many examples of how they work together as a team to determine the safest route when driving, additional navigational strategies include Karen’s ability to navigate and locate shops and restaurants, as Gene focuses on traffic.

While Gene and Karen seemed to relish the opportunity to stage photos and discuss their past experiences, Robert seemed a more concrete learner who preferred to hear my
recommendations, rather than learn through a creative process. This difference in experience could also be influenced by the reflection that comes from collaboration. Robert and Beth Ann were married individuals who participated in this study without their spouse. It is possible that Robert and Beth Ann’s ability to use the photograph as a reflective learning tool was limited as compared to Gene and Karen’s because they were not working in the same type of collaborative partnership that they typically use to address home safety challenges. Romero, Hyvöönen, Pirkko, and Barbera (2012) examined and characterized the capabilities of older adults to collaborate through virtual learning environments. These authors stated:

Creative denotes the quality of collaboration, where the aim is to act together to find diverse ways to use technologies in order to enhance the well-being and active ageing. The processes itself should free an individual’s cognitive resources and provide something that they have not encountered or understood before, for instance social interaction, atmosphere or the exchange of ideas and feelings. Creativity is seen as an important part of collaboration and specifically of collaborative learning. (p. 423)

It is reasonable to assume that if collaboration is a valuable experience in both the workplace and in education, then the collaborative experience shared by married older adults would likely enhance safety awareness as well as quality of life.

**Confidence.** The level of confidence shown by the older adult participants in this study was a pleasant unanticipated finding. I was initially concerned that technology related anxiety and the newness of the learning environment would inhibit the learning experience. Most participants seemed to march confidently forward into this online learning experience. The opportunity for age related impairments to inhibit learning was present in Nancy’s experience during the session that her hearing aid battery began to fail. Rather than taking the time to state
early on in the process that she needed to change the battery, she chose to continue with the session despite the fact that she could not really hear what I was saying. While I believe that Nancy gained from her narrative learning, it was difficult to tie the safety experience that she was sharing to safety improvements because she chose to hide her hearing problem until she could no longer cover. Hearing loss can be such a socially isolating disability and can lead to mishearing of information as well as misunderstanding of the social nature of an exchange. This isolation can certainly lead to a decreasing of an individual’s confidence in their ability.

Gonsalves and Pichora-Fuller (2008) examined the use of technology of different forms among Canadian seniors with hearing loss. These researchers found that in two groups of older adults the ones who had better sensory abilities used technologies, (the internet, a computer, telephone answering machine, pager and cable television) slightly more than those with a sensory loss. This was especially true of newer or more specialized technology. The authors indicated that older adults were more likely to use cell phones if they have never had sensory difficulties, and that hearing aids did seem to mitigate these differences. Gonsalves and Pichora-Fuller (2008) contributed an unusual finding: those without hearing aids were less likely to use technologies. This included those who did not rely on hearing, such as ATMs, email, or other communication tools. This provides an area for further study in that one could ask if the loss of hearing leads to a gradual loss of confidence over time that makes a person self-limit when it comes to learning new technology, or does growing isolation created by hearing loss result in a decreased need for technology.

Werner, Carlson, Jordan-Marsh, and Clark (2011) examined some of the psychosocial characteristics and coping skills of older adults who were and were not active computer users. These researchers stated:
Behavioral disengagement was negatively associated with general computer use after we controlled for other psychosocial variables. In other words, older adults who tend to be actively involved, rather than withdrawn, were more likely to use computers.

Correspondingly, active coping approached significance as an independent predictor of greater general computer use. These results may be indicative of a dispositional proactive approach to challenges, such as learning to use technology later in life. (pp. 442-443)

Werner et al.’s work (2011) is relevant to this study as these older adults who rated themselves as moderately comfortable with technology were also active and engaged with their families and other social circles, and participated in some form of work or study on a regular basis. In terms of demographics, Werner et al. (2011) indicated that general computer use and email in older adults may be predicted by younger age, higher levels of education, behaviorally active coping style, general health, and role-related emotional health.

Unfortunately participants in this study were not diverse in their demographic characteristics or in terms of their socioeconomic status. Their middle class lifestyle made it possible for them to enjoy new technologies for leisure within their home which promotes a level of confidence and comfort that may not be found in older adults from lower socioeconomic categories or those with only limited access to technology.

**Procedural findings.** This section of the discussion will focus on the some of the unique aspects of this project, and specifically the methods employed, as they are discussed within the current body of literature. Several processes were tied together around the concept of narrative learning and home safety. These were unique in their combination do not have a cohesive fit in
the existing literature. Instead these processes will be examined independently and where appropriate the opportunity for relevant connections will be made.

**SAFER-HOME, v. 3.** The SAFER-HOME, v. 3 (Appendix A) is a quantifiable tool to assess safety issues within the home as well as being an outcome measure to examine how the environment can influence a person’s performance within the home. The SAFER-HOME, v. 3 (Appendix A) has traditionally been used by occupational therapists and is valued as a tool for discharge planning, anticipating home challenges when leaving a medical facility or as a pre/post measure of safe occupational performance, often used when working with clients in a home health setting. I used the tool in the latter fashion, only providing the home safety education via telehealth. Because the participants were well, independent older adults, changes in their overall scores were small. Additionally, this qualitative study allowed for the tool to be used descriptively because of the small number of participants. This is relevant for future study, as there is not yet any available literature on the SAFER-HOME, v. 3 (Appendix A) examining a ceiling effect for well, independent older adults. As opportunities for wellness and prevention practice emerge, a potential ceiling effect could limit this particular assessment’s effectiveness. Because this tool can be used in direct observation as well as through an interview, it has the potential to be a valuable outcome measure for telehealth service delivery.

Researchers found that the SAFER-HOME v. 2 possesses “high internal consistency with a coefficient alpha value of 0.859, indicating that the 97 items all contributed to the measurement of one dimension (home safety)” (Chiu & Oliver, 2006, p. 140). Additionally the subscale values ranged from 0.529 to 0.789 (Chiu & Oliver, 2006). The researchers recommended that when using this assessment as an outcome measure that the total score be used rather than focusing on sub scores. In using the version 3 tool as an outcome measure, I found the same to
be true. A lengthier experience, possibly with individuals with a disability or who are recovering from an illness, may be able to show greater change within individual categories as well as a greater overall change. With limited visits and guided by the individual needs of very independent older adults, I simply did not address all areas of the home as many areas were not an area of past safety experiences or of no present challenge. Another consideration was that the SAFER-HOME, v. 3 (Appendix A) is a valued tool in the field of occupational therapy, but the focus of this experience was educational in nature, and I did not deliver typical occupational therapy services, rather I followed the path provided by narrative learning. It is possible that had I been more prescriptive in my recommendations, the participants would have felt a greater sense of obligation to making changes in their home, resulting in a greater change in scores. So while the SAFER-HOME, v. 3 (Appendix A) is a reliable and valid home safety measure in occupational therapy, it may not offer the same statistically significance change when the intervention provided is solely education based.

**Abstract versus concrete photos.** The findings of this study indicated that photo elicitation enhances narrative learning. Photo elicitation is a valuable tool that prepared participants for learning and allowed them to reflect upon past experiences. The use of a photograph in support of narrative learning can be a challenge for less abstract learners or individuals who believe strongly that they have already have found a solution to their past challenges. Beike and Naufel (2009) examined abstract and concrete thought in terms of goal performance. These researchers offer some insight into the expectation of some of the individuals who were more concrete in their photography. Beike and Naufel (2009) found that when individuals create concrete goals they are focused on how these goals are implemented, and individuals who create abstract goals are more focused on the reasons why the goals are
implemented. These researchers focused on students and their expectations of performance in a psychology course, yet it is relevant in that the researchers note that a concrete construal of a goal caused participants to predict a likely completion and an abstract construal of the same goal caused students to predict they would perform at a higher level (Beike & Naufel, 2009). So if a learner perceives a course objective concretely (i.e., I will use a photograph to help share a story of past safety experiences), the learner will likely meet that expectation; they will complete the goal. If a learner perceives a course objective abstractly, then they will focus more on doing well rather than goal completion (Beike & Naufel, 2009). This difference in perception may show why some participants engaged differently; they simply carried a broader view of what a successful goal for this program would entail.

**Rapport.** Rapport building was a greater challenge than I anticipated. Initial face-to-face meetings were beneficial, but for several participants it was difficult for us to establish trust and have open conversations about some of the challenges that come with aging, and real authentic experiences, were slow to develop. Janzen, Perry, and Edwards (2011) examined the use of photovoice in a qualitative study as a way to develop an authentic environment for learners in an online nursing class. While this research focused on student nurses, many of the findings related to building trust online as essential to making meaning. This meaning making led to deep learning between the self and the subject matter. I had hoped that using photographs would help participants be more candid about their past experiences, but the benefit of this tool was at times negated by the physical separation that seemed to occur in an online environment. Examining the literature on rapport building led into two categories, educational literature that focused on virtual learning environments (Murphy & Rodriguez-Manzanares, 2012) and more traditional health care literature. Tickle-Dengan and Rosenthal (1990) identified nonverbal behaviors as a
key element in creating rapport. For instance, they identified “bodily postures” (p. 290) that indicated attentiveness and positivity such as smiling and head nodding to be nonverbal behaviors that support rapport. These mannerisms, even when present, did not seem to be transmitted as efficiently over a video connection as they are in person. While I made efforts during the sessions to focus my vision on the web cam, rather than the image on the computer monitor, it is easy to drift away from this view and simply feel a need to look at the face of the participant. This action, although repeatedly corrected, surely gave the participants the feeling that I was gazing down and not looking directly at them. I believe this is one example of how an experienced web-based health educator needs to intentionally communicate for extended periods of time, and is a rapport building skill that is important to develop in this method of service delivery.

**Technology.** Broady, Chan, and Caputi (2010) examined existing literature related to attitudes and abilities with computers and essentially found that the attitude and experiences of young and old are similar, countering the popular myths about older adults and computer use. The authors identified several factors that are likely to enhance an older person’s experience with computers and these include, allowing ample time for skill mastery, treating the older adult user/learner in a positive manner that makes them feel valued, as well as a teacher’s expectation of success. This supports the findings in this study, as this computer-based experience did not seem to provide any greater challenge to the older adult participants than it provided me. Throughout the process, we experienced poor connections, disconnections, and the process of learning as we transferred electronic files through the VSee program in real time. All in all these older adult participants were calm and competent as they interfaced with this new technology.
Serrano and Karahanna (2009) conducted a survey of individuals who were using the emergency room (ER) about trying a walk-in telehealth system instead of using the ER. They structured their interview questions based on the Health Belief Model and found the following: the majority of participants, 52% reported they would use a walk-in telemedicine clinic, while 14% said they never would. Thirty-five percent provided a conditional response in responding that it would depend on their insurance, if they could see their own physician in a reasonable amount of time (Serrano & Karahanna, 2009). These researchers found:

While some commonalities exist, patient acceptance of telemedicine technology entails some unique antecedents. Specifically, perceived e-consultation diagnosticity emerged as a central concern for potential adopters. Given the possible personal risk entailed in health care decisions, and the technology-mediated nature of the interaction with the physician, potential adopters raised concerns about the efficacy of the technology in enabling diagnoses of their health condition. (p. 53)

These results add support to several of the present study’s findings indicating a concern that technology will somehow be less effective than face-to-face consultations in health care. This is of great concern when seeking an accurate diagnosis from a physician. Given the importance of an open, honest, working relationship with one’s health care provider, time spent developing necessary rapport could impact the use of telehealth in many areas of service delivery, especially one as fast paced as an emergency room. Given my challenges building rapport with some of my more concrete participants, as well as some who were more cautious about what they were willing to share, we have reason to believe that the successful implementation of telehealth would depend largely on the characteristics of the individuals who will use it and the therapeutic relationship provided by those delivering services.
Summary

Within this chapter, I examined and recapitulated the findings using several different perspectives. Case studies were completed on each of the six study participants, followed by findings related to the photo elicited narrative learning experience. Findings include how digital photographs were used as an antecedent to narrative learning; how friend stories related to safety emerged among women in the study; how collaborative cognition may be an important reflective component of home safety in older adult couples; and how confidence in the use of technology seemed to emerge in opposition to the culturally accepted idea that older adults experience anxiety when using technology. The procedural findings, based upon the specific methods employed, were examined to provide information about the processes of this unique educational experience in the hope that it will inform educational and clinical practice. All findings were examined in the discussion through the lens of the existing literature.
Chapter 5: Conclusions

Overview

My aim was to explore the experience of a home safety education program for older adults, grounded in narrative learning and delivered electronically using digital photographs and web-based video technology. A secondary purpose was to continue to build upon the knowledge of how occupational therapists provide client education as an intervention strategy in the emerging practice setting of telehealth. Six older adult participants used a web-based video format to participate in a home safety education program. This educational program used digital photographs as an antecedent to narrative learning. The initial session was held in the participant’s home and included a home safety assessment that was re-administered five weeks later during a final face-to-face visit. Visits two through four occurred using VSee, a web-based video program that is commonly used in telehealth practice. Five of six participants experienced an improvement in SAFER-HOME, v.3 (Appendix A) assessment. Online sessions were recorded and transcribed. Transcriptions, a researcher reflexivity journal, photographs, and field notes were used to capture the learning experience throughout its duration.

Trustworthiness. Lincoln and Guba (1985) identified four ways to meet the criteria of trustworthiness in qualitative research. This section discusses how these concepts were established within this study.

Credibility. Lincoln and Guba (1985) identified five means to establish a study’s credibility. Of the five means, three were used within this study: “prolonged engagement, persistent observation, and triangulation” (Lincoln & Guba, 1985, p. 301). Triangulation provides credibility in this study because of the multiple data sources, including photographs, session transcriptions and the use of the SAFER-HOME, v. 3 (Appendix A). Eisner (1991)
suggests structural credibility occurs when “the researcher uses multiple types of data to support or contradict the interpretation” (as cited in Creswell, 2013, p. 246). This study showed “structural credibility” (Eisner [1991] as cited in Creswell, 2013, p. 246) through the use of the photographs and the participant narratives together as the expression of a past event, and the subsequent participant discussion on how that experience did or could, lead to safety changes in the environment. Credibility was also supported by data generated by the SAFER-HOME, v. 3 Assessment (Appendix A). This assessment includes both numerical and descriptive data describing household spaces and the participants’ ability to function safely within their space. The combination of evidence, allows the data a level of credibility that makes it worthy of consideration in education and health professions practice. Prolonged engagement and persistent observation are found in the multiple sessions that were constructed in a consistent format and through the recording process reviewed multiple times.

Transferability. Transferability in this study is created by the “thick descriptions” (Lincoln & Guba, 1985, p. 316) found in the participant narratives and the photographs that were antecedents to those narratives. I also used highly descriptive writing in my researcher journal entries. Additionally, I presented the information on the participants first in a case summary format so that the reader is offered a comprehensive look at the individuals who participated in this study. This allowed the reader to understand their personalities and the context of their lives. In this way, the concepts that emerged from the data analysis were better supported by knowing the individuals who were a part of their creation. This allowed the reader to transfer relevant information from these rich narratives into their own educational or clinical practice.

Dependability. Given the unique experiences of these participants, dependability in this study is “subject to change and instability” (Creswell, 2013, p. 246). Efforts to ensure credibility
also contribute to the dependability of this study. Prolonged engagement through multiple
sessions and the triangulation of data offers multiple points that can be scrutinized by the
reviewer. Because this is dissertation research, dependability is further insured by the audit
structure that this supervised research process offers. This project proposal was reviewed prior
to its submission and approval by an institutional review board. Throughout the data collection
process a password protected, shared electronic storage folder was maintained with my
committee chair so that she was able to monitor the data collection process as well as the
timeliness of the completion of transcriptions and analysis. While no formal audit was included
as a part of this process, outside accountability strengthened structures that support credibility
and led to greater dependability.

**Confirmability.** This study embodies confirmability because of electronic format and the
cloud sharing of data points with my dissertation advisor. The electronic format allows for easy
storage of the six categories recommended by Halpern (1983), including, “raw data, data
reduction and analysis, data reconstruction and synthesis, process notes, materials relating to
intentions and dispositions and instrument development information” (as cited in Lincoln &
Guba, 1985, pp. 319-320). In addition to the accountability that is inherent in a dissertation
project, this study included a reflexivity journal completed by the investigator after sessions and
reviewed at the completion of that session’s transcription. This reflexivity journal operated as a
type of diary that allowed me to process my thoughts on the session as a type of field observer’s
analysis as well as my thoughts on my own performance and the study in general. These entries,
available to my committee chair in the shared electronic file, allowed me to adjust my interview
questions, reflect on the frustration that seemed to accompany my work with my more concrete
participants, and adjust my own style throughout the process as I became more and more aware
of my limitations as a novice researcher. This journal allowed me the opportunity to examine the “human instrument” (Lincoln & Guba, 1985, p. 327) as closely as other tools in this study were considered.

**Authenticity.** While not originally included by Lincoln and Guba (1985), authenticity is also used as an important quality measure for qualitative research. Authenticity is a concept related to validity that allows for “different voices to be heard” (Creswell, 2013, p. 248). Whittemore, Chase, and Mandle (2001) identified authenticity as primary criteria in validation (p. 530). This study shows authenticity in the many ways that these six participants allowed their home and their experiences to be expressed. The participants offered not only the opportunity for me to inspect their home space, they provided photographs related to those spaces and told what could be considered intimate stories of their failings. Those familiar with injury while doing something foolish have dreaded the experience of yet another explanation to well-intentioned friends and family. Yet the participants in this study went willingly through this process, sharing their uncomfortable experiences and their space with a stranger. Because of the multiplicity of data types collected, this study offers the reader several ways to know the participants’ experiences and see the consistencies and the uniqueness of their individual lives. We hear their authentic individual voices. It is unfortunate that this study did not offer the perspective of individuals from differing socioeconomic levels or vastly different cultural or ethnic groups. Had a more diverse group of individuals been represented, the narratives would have offered more unique experiences and a variety of strategies and modifications as diverse individuals plan for a safe older adulthood. Despite the lack of diversity, these participants expressed very unique experiences as well as unique ways of planning for their future needs.
Research questions. The central research questions are restated here followed by a summarized version from the above findings. This is followed by an examination of the limitations of this study as I attempted to answer these initial questions.

Primary question 1. What is the process of home safety education with older adults as it is delivered in a web-based synchronous format? The procedural findings provide a more in-depth look at the process of this experience. To summarize, this process began with an individual visit to the participants’ home, getting them familiar with technology, asking some general demographic questions and reviewing their home environment using a home safety outcome measure. In most cases this took about an hour and in one case it took two hours. The participants were then given a task to explore their surroundings, reflecting on past safety challenges or accidents and sent me a copy of a photo that represents this experience. The photographs, which arrived prior to the online video sessions, were sometimes intentionally staged and very creative, and some were more concrete. Likewise, the descriptions provided by the participants about the photos varied based on many factors. These factors included their level of trust and confidence in me, their expectations of my role in the process, and their willingness to be open and share their stories. These photographs and the connected narratives were the basis for three web-based video sessions. As in all educational experiences, there were differing levels of success with different types of learners. In these web-based educational experiences, technology was ever present in this learning process as well, and offered both barriers and supports to learning. After the web-based video sessions had concluded, there was a final face-to-face visit in the participant’s home where I removed the software from their computer and again administered the SAFER-HOME, v. 3 (Appendix A) assessment to account for and quantify any functional or environmental changes that had been made during the
educational process. Assessment scores showed, in general, a small change in the SAFER-HOME, v. 3 (Appendix A); this change and the richness of the participant narratives indicate a benefit from this learning experience.

**Primary question 2.** How does the use of narrative learning theory enhanced by photo elicitation facilitate older adults’ home safety? The use of narrative learning enhanced by photo elicitation facilitated home safety in two different ways during this study, but always added to the reflective process. For Nancy, Gene and Karen, and Beth Ann, preparing the photographs in advance of the study provided them with the opportunity to reflect on their previous accidents and capture elements that they believed were contributors to the accident. The use of the photos could be considered as a form of the “Flipped Classroom” (Educause, 2012, p. 1). The flipped classroom, often used in blended learning experiences, requires the students to work through homework, assigned readings, or videos prior to class. Rather than a lecture experience, in class time is spent on application of concepts, allowing the instructor to find and remediate any errors in thinking (Educause, 2012).

Gene and Karen went through a reflective process prior to their online session as they staged or attempted to include the elements of past accidents in the photo. The telling of the story and the discussion that followed solidified their learning, building on the photo as reflection. Robert and Lynn were at times challenged by the use of the photo as representative of a past accident with each only using one photo supported narrative in this way. For Robert and Lynn the photo offered a different type of learning which seemed to happen in real time as they examined the photos later during the sessions. An example of this was when Robert had taken a photo of the exit door in his bedroom, and I misinterpreted this egress as an area of clutter. He immediately reassured me that there was adequate space to exit in a hurry, if necessary, but I
noted that on my final visit he had cleared the egress. In this scenario Robert reflected on the safety issue, and this process seemed to make him more aware of the hazard, but he did not seem to value the experience of taking a photo and narrating a story. It was only after the online discussion that the reflection occurred.

**Secondary question 1.** What are the participant experiences with managing home safety issues? This question has numerous very individual answers and details are examined in greater detail within the findings subsection on narratives. In general, it seems helpful to have someone with whom you can share strategies. Two of my participants were widowed, and many of their safety narratives included a trusted friend, sister, or daughter who had been aware of the problems and worked with them to find solutions. It is important, and I believe it speaks to the confidence of these women that they did not hide their falls and driving and cooking mishaps. Instead, they shared the information with people who care about them taking an active role in the solution. Four participants were married. In the case of Gene and Karen, they participated in the study together. Gene and Karen seem to address safety issues in a more collaborative way as well, but used a more preemptive approach to thinking about safety. This was evidenced as Gene described the process of driving as a “two man job,” and it became clear that their shared safe driving strategies evolved over the years and were now used in an intentional proactive way while on the road. While Robert and Beth Ann’s spouses were not involved in project, it was clear that they too drew on collaboration and the support of their respective spouses. For Robert, he and his wife both experienced health issues in the past and seemed to value each other’s input and share the safety related decision making. Beth Ann also enjoys a long marriage and a large extended family, but because of her challenges with alcohol she does not always share openly with her family and provided examples of this in her safety narratives. In this case, it may be to
her advantage to only collaborate so far, as too much disclosure may disrupt her routine that
allows for afternoon imbibing. In considering this research question, most participants managed
their home safety issues well. They were willing to examine past challenges and collaborate on
potential solutions with people they trust and respect.

Secondary question 2. Are there demographic characteristics of older adults that can
influence home safety decision-making? If so, what are they, and how are they influential? As
indicated in limitations, the lack of diversity in this group, and the small number of participant
cases examined limit any certain answer. Participants were all active older adults, who owned
their homes, enjoyed a middle class suburban lifestyle, and maintained good social connections
in and outside of their family. Findings indicate that having a trusted person to collaborate with
regarding home safety decisions is an important part of safety awareness. For Robert and Karen
and Gene, that collaboration came from a spouse. For Lynn and Nancy that trusted person was a
family member or friends; of concern is Beth Ann. While she is surrounded by a loving family
who live close, she does not encourage open collaborative relationships. Her tendency to avoid
going to the doctor or telling family members when she has been injured could prevent her from
any real problem solving regarding safety. This question provides many opportunities for future
research, which are addressed later in this section.

Secondary question 3. Does the combination of personal narrative and digital
photographs impact home safety as scored by the Safety Assessment of Function and the
Environment for Rehabilitation-Health Outcome Measurement and Evaluation, version 3
(SAFER-HOME v. 3) (Appendix A)? Improvements in SAFER-HOME v. 3 scores, although
slight, were made for five of the six participants in this study. Additionally, because of the
prolonged nature of this project, it is impossible to draw specific cause and effect relationships
between the photo elicited narratives and changes in the overall SAFER-HOME, v. 3 Assessment (Appendix A). Individuals who struggled to use a photograph as a reflective piece or offered limited narratives did engage in discussions about specific problems within their home and derived benefit in more traditional ways. In addition to photos about past accidents, participants took photos of existing home modifications, and at times I offered very concrete advice such as the placement of future grab bars and strategies for safe driving. These discussions seemed to be a natural part of our session conversations, and while they cloud the impact of pure learning from photo supported narratives, they supported rapport and moved the conversation along. It was also important ethically that I met my obligation to the safety of the participants. While I did not start a discussion on a photo with advice from the perspective of an occupational therapist (e.g. pick up your throw rugs so you don’t trip), when the narrative did not evolve in that direction, I did offer specific, more prescriptive advice before the session ended.

To see the connection between the photo elicited narrative and the SAFER score one must consider change found in specific categories of change in the SAFER-HOME, v. 3 assessment (Appendix A). An example of this change occurred when Robert took a photo of the exit from his bedroom, and I mistakenly took this area as his wife’s cluttered craft room. During the SAFER reassessment, Robert had cleared the area improving access to an exit, improving a category score. While the SAFER-HOME, v. 3 (Appendix A) remains the best choice for this type of comparison this research question is exploratory in nature and the data that indicates that this process contributes to a safer environment is found in descriptive subsections of this assessment tool. In some cases, SAFER scores on specific line items did not improve after I developed a greater understanding of how an individual participant functioned within their space. This was the case with Nancy when during our initial visit it was noted that the bath tub had a
non-skid surface and grab bar. But after a past fall, a discussion on her bathing preferences, and her resistance to consider changes, I felt her to be less safe in that category as I came to know her experiences better resulting in an additional unsafe area of the home. I am confident that photo elicited narrative learning can impact a person’s understanding of home safety, yet this growth in understanding may not be directly tied to the scores of the SAFER-HOME, v. 3 (Appendix A).

**Secondary question 4.** How does the use of personal narrative and digital photography impact an individual’s awareness of safety challenges in their home? This process of photo elicited narrative learning made an impact on these participants in that it focused their reflection on past safety experiences. The use of the photos and the stories that the participants shared seem to personalize the topic by building a basis for future planning. Rather than looking at a pamphlet with instructions on how to make your home safer, photos created by the participant made the experience more applicable to them and, therefore, a more authentic learning experience. Their past experiences represented and captured in the photo meant that all of the items addressed were issues that were relevant from the start because they were real events from their lives. No scare tactics or warnings were needed—such as *you could slip and hurt yourself on that rug*—because the warnings were reality and immediately elevated in terms of relevance and importance. The process of tying those past experiences to potential safety problems in current times was a much greater challenge and brought about interesting twists to the learning such as how friend stories influence decision making and whether or not older adults who live alone are cautious or even defensive when implementing recommendations from others. The concept of digital photography in support of narrative learning as a way to focus reflection was a different experience for each participant. A greater depth of discussion seemed to accompany a more abstract or sometimes staged photo, and a more concrete photo seemed to be associated
with participants who simply wanted my recommendation on a topic that had challenged them in the past. Participant buy-in on the notion of narrative learning seemed to be important to how active a role they were to take in the learning process.

**Secondary question 5.** How does narrative learning and photo elicitation support existing theories of change when addressing home safety? In the review of the existing literature in chapter two, I examined several theoretical models of change as foundational to the changes that the older adult participants would make regarding home safety. These included the Health Belief Model (Janz, et al., 2002), The Transtheoretical Approach (Prochaska et al., 1994), the Theory of Reasoned Action (Ajzen, & Fishbein, 1980) and the Occupational Adaptation Model (Schkade & Schultz, 1992). It is no surprise there were examples of each of these among the participants over the course of our sessions. Examples of occupational adaptation were evident in modifications that Nancy made to her home to allow her to adapt to her hearing loss. A bed alarm that vibrates if the phone rings during the night and her own ability to consider the options available to prevent distractions when cooking show that she was able to appraise her own abilities and make adaptations as needed. As anticipated, the Transtheoretical Model and the Health Belief Model are valuable tools for understanding how people make behavioral adjustments over time, but these models were not evident in a study that spanned a five-week period.

Of the initial theories examined, The Theory of Reasoned Action was most evident when working with older adults on home safety. Ajzen and Fishbein (1980) stated that, “human beings are usually quite rational and make systematic use of the information available to them” (p. 5). Participants in this study provided many examples of this in each session. In the case of Robert his past household safety changes based on the advice of his physician, and his understanding of
needed home modifications have served him well. He benefited from this past experience more so than he benefited from the experience of narrative learning in this study. Additionally, despite the focus on past slips, trips, and misses, all participants used their narratives to think through current and future courses of action with their safety in mind. Participants, in the words of Ajzen and Fishbein (1980), “used the information available to them in a reasonable manner to arrive at their decisions” (p. 244). Ajzen and Fishbein (1980) identified two types of beliefs. One is behavioral and includes their attitude toward their belief; the second is normative, which is more subjective and deals with the influence of society. An individual will “weigh these two concepts and make a decision about the likelihood of a good outcome; the individual will then carry out their intended action” (Ajzen & Fishbein, 1980, p. 245). Examples of this can be found in the struggles Nancy experienced as she considered her options for getting to a seated position at the bottom of the bathtub and safely out again without falling. It was difficult for her to find a workable solution that would be both safe and fit with her societal expectations. She knew that her mother took baths well into her later years, and she struggled to consider any options such as a shower chair while bathing because she has an expectation of aging based on her mother’s experience. As we began exploring safe options that allowed her to work within her same view of success, she was more receptive to different modifications. As indicated earlier, all models of change are relevant given this topic and the many ways that people live and make decisions about home safety. Given these community dwelling, well older adults, with independent beliefs and different ways of living, The Theory of Reasoned Action provided a good framework to help them approach change within the time frame of this study. For these successful older adults a measured, logical approach to planning was something they were all quite comfortable with and one that provided a good foundation for a narrative learning experience.
Secondary question 6. What insights about safety issues in the home and community are gained through photo elicitation and personal narrative? The answer to this question is that by simply directing attention to safety issues we begin the process of making change. The photo, the recollection of a past event, or possibly even the friend stories of past accidents help direct our attention to risk. Taking this attention and turning it into a narrative that a person owns and shares is supported by a constructionist approach to learning, and in this process the creator of the story becomes the expert. This process is inherently different from a more didactic approach to educating patients that is common in health care and encourages the patient to be the passive receiver of information but never an expert in creating a safe space. In occupational therapy the paradigm expressed in Mary Reilly’s statement that “Man through the use of his hands, as they are energized by mind and will, can influence the state of his own health” (Reilly, 1962, p. 2) continues to hold meaning given this study. It was not through my advice that the participants came to better understand safety challenges in their home, but through the knowledge that they created. I simply became a guide, a supplement to their perspective.

Limitations. A limitation of this study must include the homogeneity of this group of participants. Attempts were made to recruit from three different, slightly more diverse participant pools with no responses. More intentional recruitment was initiated through my university faculty and occupational therapy colleagues, and I was able to obtain participants, but these individuals offered a less diverse perspective. Possibly because of the focus on the use of technology, individuals from lower socioeconomic backgrounds may not have had the access to the resources needed to participate. As a result, the safety issues and solutions addressed were more narrowly focused and my ability to assess the impact of technology on the process was limited as well.
A second limitation stems from the challenges of technology. While it seems during our modern era that technology always offers a solution for our challenges, when it fails to work consistently in an educational setting, the process of reflecting on experiences, generating an understanding, and problem solving can be disrupted. Combining the limitations of the reliability of technology with the reduced availability of technology for those in lower socioeconomic status, this specific program, as it was designed, may not be easily implemented across many populations. I am optimistic that it has educational and clinical relevance in that it offers insight into home safety and the learning process for older adults. Adult educators and clinicians may still be able to incorporate concepts from this project into their daily practice.

A final limitation is the general unwieldiness of a qualitative study when it is funded and managed by one individual. In hindsight, sharing this experience with six participants over a period of time that spanned eight weeks and included 25 sessions from which I collected and interpreted data was not always manageable. After the initial recruitment efforts failed to produce any interest, I was hesitant to delay participant start dates for fear that a delay would result in a lost participant. The result of this intensity of workload was that all available time was used during data collection for session preparation and transcription. The opportunity for preliminary analysis during the data collection process was pushed toward the end as early participants were completed. As a novice researcher it was difficult to reflect on transcriptions prior to the next session and adjust my approach if needed. Data found in reflexivity journal entries and margin notes provided rudimentary analysis that could be reviewed with participants in successive sessions. When the transcriptions were re-examined more thoughtfully, later in the process, I found topics that could have been addressed differently or in more depth. This may have hampered my ability to have timely responses to issues that were important to my
participants. Funding to support technology challenges and to provide support for transcription would have allowed me to focus my efforts in a more intentional way adding richness to the data collected.

**Recommendations**

This section includes the recommendations that have come from this research. These include suggestions for further research endeavors, what the implications of this research are for scholars as well as clinicians who provide health care related education, and the personal value this work has provided me as an occupational therapy practitioner and educator.

**Suggestions for future research.** Future research should focus on a more diverse population in terms of race and socioeconomic status. It may also be of benefit to further examine narrative learning from a gender based perspective, specifically in terms of the friend stories shared by the women participants that became part of a more collective narrative. I am hopeful that this project can spur other types of study on the topic of photo elicited narrative learning. Implementing quantitative studies on the use of the SAFER-HOME, v. 3 assessment (Appendix A) in a well, older adult population would be beneficial. The descriptive qualities of this assessment were beneficial within the individual categories, but overall scores may be limited in an independent dwelling older adult population by a ceiling effect. Studies on similar tools that may be more responsive to a well older adult population would be valuable as well. The need for more global, responsive assessment in the area of home safety is an important area to address given the focus on health maintenance in the Affordable Care Act and a growing older adult population. Qualitative research from a grounded theory perspective could further improve our understanding of some of the more unique findings such as collaborative cognition and how it may support home safety. Certainly one could ask if collaborative cognition is a positive
contributor to home safety or simply something that adds to the confidence of the decisions being made. It could be argued that while Karen and Gene used collaborative cognition successfully when driving, their strategies for winter time mail collection may have been flawed.

A qualitative, grounded theory study focused on building rapport in an online, synchronous format is the type of study that could be beneficial for telehealth practice across disciplines. A level of intimacy and privacy is important for health care providers and their clients, not only as it is required legally, but a high level of trust is necessary for full communication. This study suggests that despite expertise in the topic area, greater effort is needed to develop a level of trust that comes easier in a face-to-face setting. Understanding the subtleties of the online environment and how it influences rapport, client trust, and provider influence are vital if this method of service delivery is to be successful.

**Implications for future scholars.** Relevant to future scholarly pursuits in the realm of telehealth service delivery, and photo elicited narrative learning in home safety, I offer a brief glimpse of a very specific, technology based, style of health maintenance education. Understanding this study is merely a small piece of what I hope is a greater awareness of how health care education could be constructed and delivered to be more effective. Additionally, this work offers an interdisciplinary look at the influence of technology on the learning experience and a focus on the strengths and weaknesses of technology when providing health related services.

**Implications for practice.** The field of adult education has much to offer health related fields as they are held to greater standards of accountability in practice. Delivering quality care is no longer an acceptable standard for providers; it is now of consequence just how quality care influences a client’s longer term health and well-being. Because of this shifting view of a quality
outcome, practitioners in health care must move from a paradigm that provides education, to one that facilitates clients toward an understanding of health. It is no longer adequate to provide a home safety checklist, encourage them to remove their throw rugs, and ask a client if they have questions only to later identify them as non-compliant when they return to your care after a fall. Client centered education is an effective way to influence lasting, positive, long term outcomes. To that end, practitioners need to have greater knowledge about designing effective educational experiences. Instructions delivered are not the same as education provided, and health care providers should not confuse the check box, indicating education occurred, with a moral obligation to successfully educate their clients. Clinicians in all areas of health care need to understand the educational process on a deeper level, and this should include concepts from adult education, which are different than the traditional teacher-centered educational experience with which health professionals are most familiar.

**Personal impact.** On a personal level, I would say that this research project has my strengthened respect for older adults and reinforced my awareness of the need for relationship building in education and clinical practice. In a nation that is focused on productivity, and finding every possible way to be as efficient as possible, it is important to understand that human connectedness leads to trust, trust leads to rapport, and that rapport requires listening. In listening to our clients we are a real time witness to their processing and this processing time is valuable. Also, occupational therapists and other health care providers need to understand that intentional rapport building is foundational to helping people understand and change the patterns and places of their lives. I hope that as the notion of a successful outcome moves from one that is met at discharge toward one with a longer view of health and well-being, this study will offer practice relevance. In my own practice as a clinician and faculty member educating occupational
therapy students, I will listen more and speak less. When in doubt, I will have them take a photo and tell me a story.

Summary

The purpose of this study was to explore the experience of a home safety education program for older adults, grounded in narrative learning and delivered electronically using digital photographs and web-based video technology. It was also my hope to build upon the knowledge of how occupational therapists provide client education as an intervention strategy. It was my intention, through this multi-case study, to examine the experiences of educating older adults about home safety via web-based video technology using photo elicitation and narrative learning. I used qualitative methods to examine the experience of client education via web-based video technology from the perspective of the participant and the therapist researcher. Data collection for each participant occurred over a five week period. This included two face-to-face sessions (the first and last) and three web-based video conference conversation/interviews that occurred during weeks two through five. This research is significant because it contributes to understandings of adult educational theories as a part of occupational therapy service delivery and enhances an occupational therapist’s ability to deliver home safety services via telehealth. I am optimistic this study will lead others to a more in depth focus on the delivery of client education via telehealth as well as face-to-face service delivery. Closer examination of how clients learn well, both within and outside of the healthcare environment, is a vital part of achieving lasting outcomes and improved quality of life for older adults.
References


Janzen, K., Perry, B., & Edwards, M. (2011). Becoming Real: Using the artistic pedagogical technology of photovoice as a medium to becoming real to one another in the online educative environment. *International Journal of Nursing Education Scholarship, 8*, 1-17.


Janzen, K., Perry, B., & Edwards, M. (2011). Becoming Real: Using the artistic pedagogical technology of photovoice as a medium to becoming real to one another in the online educative environment. *International Journal of Nursing Education Scholarship, 8*, 1-17.


10.1080/1472586X.2010.523273


Appendix A

SAFER-HOME, v. 3 Assessment

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SAFER-HOME v.3 -- © 2006
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Weighted Score = X1 X2 X3

Summary

SAFER HOME score = 

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**Occupational Therapist's signature & designation**

**Occupational Therapist's name (Please print)**

**Date (mm/dd/yyyy)**

SAFER HOME v.3 — ©2006

Page 4 of 4
Appendix B

Informed Consent

Exploring Older Adult Home Safety Education with Photo elicitation via Web-Based Video

Technology

Lori Breeden, MS, OTR, Ed.D. Candidate

Study Purpose and Rationale

I have been informed that the purpose of this research study is to explore the experience of a home safety education program for older adults, delivered electronically using digital photography and web-based video technology. A secondary purpose is to build upon the knowledge of how occupational therapists provide client education as an intervention strategy in the emerging practice setting of telehealth. This project will allow the researcher to develop insight into both her teaching practice and the challenges surrounding the delivery of client education via telehealth to community dwelling older adults.

Inclusion/Exclusion Criteria

I have been asked to participate in this research study because this project will contribute to the understanding of delivering quality health education using electronic methods. As participant I will receive an enhanced learning experience that can result in increased understanding of home and community safety. This increased understanding could decrease my future medical care overtime.

The participants in this study will be age 65 or older and will be well community dwelling older adults. Individuals who are recovering from a recent illness or injury, or individuals who are receiving occupational therapy services will be excluded from this study as the experience of these individuals is not typical of the well older adult population.

Participation Procedures and Duration

After signing this informed consent document, I will participate in the home safety education program using web-based video conferencing called VSee and electronic transmission of digital photographs. In this program, I will complete weekly photo assignments that will be used to provide insight into my daily activities and spaces. In addition to weekly photo assignments I will meet with the researcher using VSee teleconference software and we will discuss the photographs I have taken that prior week. This project will include 2 face-to-face meetings one at the beginning and one at the end; in between we will meet using VSee for video conference three times as a way to discuss home safety issues. This means the entire duration of this project is about five to seven weeks. I have been informed that this program is a part of the primary researcher’s dissertation and will be published as a part of that process.

Audio or Video Recordings

I have been informed that any information learned from my participation in this study will be de-identified and remain confidential. Teleconference sessions will be recorded for accuracy and transcribed using an alias. The recording will be used as part of the dissertation project and to ensure that the researcher has accurately transcribed my comments. Only the primary investigator will have access to these records. If information learned from this study is published, I will not be identified by name. By signing this form, however, I allow the research study investigator to make my research records (including transcriptions and recordings) available to the Ball State University Institutional Review Board and regulatory agencies as required by law. These recordings will be destroyed once transcription is complete and transcriptions will be destroyed three years following the closing of the study.

☐ I give my permission to record these interviews

☐ I prefer not to be recorded
**Data Confidentiality or Anonymity (choose the one that best applies)**
The only identifiable information in this study will be this informed consent document, and there will be no information that ties the transcription of my sessions to my name on this informed consent document. Confidential study records, including digital recordings and transcriptions will be analyzed for meaning, and stored in a locked file cabinet in a locked room.

**Storage of Data** All electronic data (including transcriptions and recordings) will be stored on password and/or encryption protected storage devices stored in a locked file cabinet in a locked room. Recordings will be destroyed once transcription is complete and transcriptions will be destroyed three years following the closing of the study. Electronic devices that stored recordings and transcriptions will be deleted and reformatted to insure that any ghost recordings have been destroyed. Paper documents, including a copy of this document will be maintained for three years following the closing of the study and will be shredded at the same time that the electronic data is deleted.

**Risks or Discomforts**
I have been informed that possible risks and discomforts to me are minimal and include the discomfort that may occur as I discuss my home and personal environment with someone that is not previously known to me.

I have been informed that the researcher is required by law to report any special situations such as child or elder abuse as well as health and safety issues that may arise from unsanitary living situations.

**Who to Contact Should You Experience Any Negative Effects from Participating in this Study**
I have been informed that this study has been reviewed and approved by the Ball State University Institutional Review Board. I have been informed that proof of IRB approval appears at the end of this document as the BSU validation stamp, which includes the dates of approval and expiration of approval. A representative of that Board, from the IRB Office, is available to discuss the review process or my rights as a research subject. The telephone numbers of the Ball State University IRB Office is (765) 285-5070.

Emergency medical treatment is available if you become injured or ill during your participation in this research project. You will be responsible for the costs of any medical care that is provided. It is understood that in the unlikely event of an injury or illness of any kind as a result of your participation in this research project that Ball State University, its agents, and employees will assume whatever responsibility is required by law. If any injury or illness occurs in the course of your participation in this research project, please notify the principal investigator.

Counseling services are available to you through the Counseling Center at Ball State University (765-285-1376) if you develop uncomfortable feelings during your participation in this research project. You will be responsible for the costs of any care that is provided. It is understood that in the unlikely event that treatment is necessary as a result of your participation in this research project that Ball State University, its agents and employees will assume whatever responsibility is required by law.

**Benefits**
I have been informed that the benefit to me is to receive wellness services with a focus on home and community safety from a licensed occupational therapy practitioner. I may improve my home safety awareness and learn of ways to protect my health and well-being.

**Voluntary Participation**
My participation in this study is voluntary and expected to last four to six weeks. I have been informed that I may withdraw my participation at any time. I have been informed that I will be one of approximately six to ten older adults participating in this study. I am free to withdraw from this study at any time without penalty. If I choose to withdraw, I should contact Lori Breeden at (317) 997-7223. Please feel free to ask any questions of the investigator before signing this form and at any time during the study.
Lori Breeden has answered my questions regarding my participation in this research study. I have been informed that if I have any further questions, I can contact Ms. Breeden at (317) 997-7223. I have been informed that I will receive a copy of this informed consent document for my records.

I have been informed that a copy of the final research results will be made available to me at the conclusion of the study by contacting Lori Breeden at (317) 997-7223. I have included my address below indicating the manner that I prefer to receive a copy of the results of this study.

**IRB Contact Information**
For questions about your rights as a research subject, please contact Director, Office of Research Integrity, Ball State University, Muncie, IN 47306, (765) 285-5070, irb@bsu.edu.

**Study Title**  Exploring Older Adult Home Safety Education with Photo elicitation via Web-Based Video Technology
Lori Breeden, MS, OTR, EdD Candidate

*******

**Consent**

I, ___________________, have been informed me of the risks and benefits of participating in this research project titled Exploring Older Adult Home Safety Education with Photo elicitation via Web-Based Video Technology. I have seen the IRB validation stamp with proper dates of approval and expiration of approval at the end of this document. I have asked questions and I have received answers that help me better understand the risks and benefits. I have thought about the risks and benefits, and I consent to be a research subject in this study.

To the best of my knowledge, I meet the inclusion/exclusion criteria for participation (described on the previous page) in this study.

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**Researcher Contact Information**

**Principal Investigator:**
Lori Breeden, MS, OTR, Graduate Student
Adult and Community Education
Ball State University
Muncie, IN 47306
Telephone: (317) 997-7223
Email: lebreeden@bsu.edu

**Faculty Supervisor:**
Dr. Amanda Latz, Ed.D.
Assistant Professor of Adult, Higher, and Community Education
Ball State University
Department of Educational Studies, TC 832
Muncie, IN 47306
Telephone: (765) 285-5477
Email: aolatz@bsu.edu
Appendix C

Media Permission

Title of Study: Exploring Older Adult Home Safety Education With Photo Elicitation via Telehealth

Principal Investigator: Lori Breeden

I have had an opportunity to read, review and ask questions about the above named research project as part of the informed consent process. I understand that part of the research involves the use of various types of media (for example, audio recordings, videotaping, digital pictures, etc.). The following information was described to me by the researcher and in the informed consent form:

- The type or types of media to be used;
- How this media was to be used in the research project;
- Who would have access to it;
- What safeguards were to be used;
- What privacy and security precautions would be used (if applicable);
- How the media would be destroyed and when once the research was completed (if applicable);
- That I have the right to withdraw from the study at any time; and
- That I can receive a copy of both the informed consent form and this media release form for my records.

As such, I agree to allow the researcher to use the media described to me as part of the above named research project. This media will only be used for the above named project, unless I give the researcher written permission (see below) for other possible uses.

For questions about your rights as a research subject, please contact the Director, Office of Research Integrity, Ball State University, Muncie, IN 47306, (765) 285-5070 or at irb@bsu.edu.

Date

Signature

Printed Name

*****************************************************************************

Permission to Contact for Follow-up Research Related Media Uses

Research is an ever changing process. At times researchers may need to contact you about follow-up research uses for the media collected. The media that was collected for the research purpose(s) described in the Informed Consent form will not be used or disclosed for any purpose(s) that you did not agreed to without your permission. Please initial any that apply.
_______ I **give** permission to the research team to contact me about possible follow-up research uses of the media collected.

_______ I **do not give** permission to the research team to contact me about possible follow-up research uses of the media collected.

_______ I **give** permission to the research team to use my research related media for any future research uses without the need to contact me.

_______ I **do not want** my research related media to be used for any future research or purpose(s) and I do not want to be contacted about possible follow-up uses.

**Note: This is completely optional and voluntary. You do not need to agree to this permission in order to take part in the proposed research.**

____________________________________
Date

____________________________________
Signature

____________________________________
Printed Name

************************************************************************************************************************

**Permission for Non-Research Related Ball State University Media Usage**

The media that was collected for the research purpose(s) described in the Informed Consent form may also be appropriate for promotional, educational or other purposes that are consistent with Ball State University's mission to disseminate knowledge and good works for the common good.

If you are interested in learning more about this option or giving Ball State University permission to use your media for non-research related purposes, please ask the principle investigator for more information or a Ball State University Media Release form.

You can also contact the Director, Office of Research Integrity, Ball State University, Muncie, IN 47306, (765) 285-5070 or at irb@bsu.edu if you have any questions about this or your rights as a research participant.

On behalf of Ball State University, thank you for your consideration.
Appendix D

Sample Conversation/Interview Questions

Week 1-Falls

Photo Assignment-Please take a photograph that represents a time you fell in or around your home?

Session questions:

- Tell me about the photo you sent and what experience it reminds you of. (Descriptive Question)
- Take me through the process that led up to this experience. (DQ)
- How did you manage after this experience? (DQ)
- Do you think this is a common event, given your family/neighborhood? (Structural Question, perceived susceptibility)
- What kind of help did you need following this event? (SQ)
- What did this assistance mean to your life and could you draw on this again? (Contrast Question, perceived severity)
- What changes have you made to your space or behavior since this incident? (CQ)
- Describe a current scenario that you think could have similar results? (Content Analysis, perceived susceptibility)
- How did this experience change how you do things around the home? (CA)

Week 2-Kitchen accidents

Photo Assignment-Please take a photograph that represents a time you injured yourself while cooking or cleaning up after a meal

- Tell me about the photo you sent and what experience it reminds you of. (DQ)
Week 3-Outside challenges

Photo Assignment—Please take a photograph that represents a time you or someone in your home injured themselves while working in the outside area.
Week 4: Driving & Other

Photo Assignment—Please take a photograph that represents a concern you have about driving as you get older.

- Tell me about the photo you sent and what experience it reminds you of. (DQ)
- Take me through the process that led up to this experience. (DQ)
- How did you manage after this experience? (DQ)
- Do you think this is a common event, given your family/neighborhood? (SQ)
- What kind of help did you need following this event? (SQ)
- What did this assistance mean to your life and could you draw on this again? (CQ)
- What changes have you made to your space or behavior since this incident? (CQ)
- Describe a current scenario that you think could have similar results? (CA)
- How did this experience change how you drive? (CA)
Recruitment for Exploring Older Adult Home Safety Education
With Photo Elicitation via Telehealth

For this study, older adults will use cameras to document areas of their home, providing a point of discussion about home safety that is based on their prior experience. The study’s purpose is to explore the experience of a home safety education program for older adults, grounded in narrative learning and delivered electronically using digital photographs and web-based video technology.

Who is eligible to participate?
We are seeking six adults for this study. Adults who may be eligible
- community dwelling older adults over the age of 65;
- have a fundamental knowledge of digital or cell phone photography,
- have a home computer that has an operating system using Windows XP SP3, Windows Vista or later versions; Mac OSX 10.6 and above, IPad iOS 5.0 or later;
- be familiar with the use of email, telephone, and willing to use V-See as a method of video communication.

Time Commitment: Participants will meet two times in their home with the occupational therapy researcher. Each meeting will be about 30 to 60 minutes. Additionally this project will include three online video sessions, with each session lasting 30-45 minutes.

Want to Know More?
Please contact the researcher at the following address:

Principal Investigator: Lori Breeden, MS, OTR and doctoral candidate in the Adult, Higher, and Community Education Program at Ball State University
Cell phone: 317-997-7223
Email: lebreeden@bsu.edu
Appendix F

Organization Recruiting Email

Hello ______________

I’m Lori Breeden and I am an occupational therapist and a doctoral candidate in the Adult, Higher, and Community Education Program at Ball State University. I am writing to ask your permission to recruit participants for my research study from your organization. My study is titled “Exploring Older Adult Home Safety Education with Photo Elicitation via telehealth.” I plan to examine client education regarding home safety by using digital photographs and web-based video technology.

I am looking for older adults who are willing to digitally photograph areas of their home, providing a point of discussion about home safety that is based on their prior experiences. The study’s purpose is to explore the experience of a home safety education program for older adults, grounded in narrative learning and delivered electronically using digital photographs and web-based video technology. A secondary purpose is to contribute to the understanding of how occupational therapists provide client education as an intervention strategy in the emerging practice setting of telehealth.

I am seeking six, older adults for this study. Adults who may be eligible
- community dwelling older adults over the age of 65;
- have a fundamental knowledge of digital or cell phone photography,
- have a home computer that has an operating system using Windows XP SP3, Windows Vista or later versions; Mac OSX 10.6 and above, IPad iOS 5.0 or later;
- be familiar with the use of email, telephone, and willing to use V-See as a method of video communication.

I am looking for participants who are willing to meet with me twice in their home; each meeting will be about 30 to 60 minutes. Additionally this project will include three online video sessions, using a free software program, VSee with each session lasting 30 -45 minutes.

I appreciate how valuable your time is. At this point, I am hoping to simply receive a reply from you as the organization’s representative stating that you would be willing to allow me to contact your members at a later date. An additional email will be sent to you at a later date designed to be forwarded to prospective participants explaining the parameters of the study.

Thank you for your assistance with this research,

Lori Breeden, MS, OTR
Cell phone: 317-997-7223
Email: lebreeden@bsu.edu
Appendix G

Participant Recruiting Email

To be sent by the organization’s representative on my behalf.
Hello ______________

I’m Lori Breeden and I am an occupational therapist and a doctoral candidate in the Adult, Higher, and Community Education Program at Ball State University. I am writing to ask for your participation in my research study titled, “Exploring Older Adult Home Safety Education with Photo Elicitation via Telehealth.” I plan to examine how therapists educate their clients about home safety by using digital photographs and web-based video technology.

I am looking for, older adults who are willing to digitally photograph areas of their home, and then discuss home safety challenges (falls, injuries, burns etc.) that they have had related to the spaces in the photos. The study’s purpose is to explore the experience of a home safety education program for older adults, grounded in narrative learning and delivered electronically using digital photographs and web-based video technology. A secondary purpose is to contribute to the understanding of how occupational therapists provide client education as an intervention strategy in the emerging practice setting of telehealth.

I am seeking six, older adults for this study. Who are:
• Community dwelling older adults over the age of 65;
• have a fundamental knowledge of digital or cell phone photography,
• have a home computer that has an operating system using Windows XP SP3, Windows Vista or later versions; Mac OSX 10.6 and above, IPad iOS 5.0 or later;
• be familiar with the use of email, telephone, and willing to use V-See as a method of video communication.

I am looking for older adults who are willing to meet with me twice in their home for a safety assessment; each meeting will be about 30 to 60 minutes and will also include the installation of free software on your home computer. Additionally this project will include three online video sessions, with each session lasting 30 -45 minutes. During this time you will share information about your home safety. As much as you feel comfortable disclosing.

If you are interested in receiving a home safety assessment and are willing to share information about your experiences over the internet. Please call or email me at the information below and I will be happy to discuss the study further.

Thank you,

Lori Breeden, MS, OTR
Cell phone: 317-997-7223
Email: lebreeden@bsu.edu
Appendix H

University of Indianapolis IRB Cooperation email

Hello Dr. Ball:

I’m Lori Breeden and I am an Assistant Professor of Occupational Therapy, and a doctoral candidate in the Adult, Higher, and Community Education Program at Ball State University. I am writing to ask for the approval and cooperation of the UIndy IRB as it relates to my doctoral dissertation. I am asking for your permission to recruit participants for my research study from The University of Indianapolis, Community Patient Resource Group (CPRG). This group works with students in the College of Health Sciences as they prepare for clinical practice. My study is titled “Exploring Older Adult Home Safety Education with Photo Elicitation via Telehealth.” I plan to examine client education regarding home safety by using digital photographs and web-based video technology.

I am looking for, older adults who are willing to digitally photograph areas of their home, providing a point of discussion about home safety that is based on their prior experiences. The study’s purpose is to explore the experience of a home safety education program for older adults, grounded in narrative learning and delivered electronically using digital photographs and web-based video technology. A secondary purpose is to contribute to the understanding of how occupational therapists provide client education as an intervention strategy in the emerging practice setting of telehealth.

I am seeking six, older adults for this study. Adults who may be eligible

- are community dwelling older adults over the age of 65
- have a fundamental knowledge of digital or cell phone photography
- have a home computer that has an operating system using Windows XP SP3, Windows Vista or later versions; Mac OSX 10.6 and above, IPad iOS 5.0 or later
- are familiar with the use of email, telephone, and willing to use V-See as a method of video communication

I am looking for participants who are willing to meet with me twice in their home, each meeting will be about 30 to 60 minutes. Additionally this project will include three online video sessions, using a free software program, VSee with each session lasting 30 -45 minutes.

At this point, I am hoping to simply receive a reply from you as the UIndy IRB chairperson stating that you would be willing to allow me to contact members of this group at a later date. An additional email will be sent to Kathy DeJong at a later date designed to be forwarded to prospective participants that explains the parameters of the study.

Thank you for your assistance with this research,

Lori Breeden, MS, OTR
Cell phone: 317-997-7223
Email: lebreeden@bsu.edu
Appendix I

Participant Information Sheet

What is the study about?
The purpose of this study is to look at how people learn about home safety by describing events that have happened in their past. Another purpose is help occupational therapists learn about educating people over the internet as some people are unable to come to a clinic and may need different types of services, it is called telehealth.

Who can participate?
Older adults who are over 65 and have a basic understanding of using a computer and programs such as email or skype. If you are willing I will set up the software on your computer. We will also use email to share photos of places in and around your home. It is important that you do not include people in your photographs as that would require an additional layer of paperwork. These photos will give us something to talk about when we have our video calls.

What happens first?
Today, we will meet and sign all of the proper paperwork that says you want to be a part of the study. You have a homework assignment and it is to:__________________________________
_____________________________________________________________________________
Please send me your electronic photos related to this topic by:____________________________
I will call you using VSee on:__________________________________
I will send you an email reminder a few days before.

How long does it take?
Each of our remaining sessions should take between 30 and 45 minutes. Our last meeting will be face-to-face in your home, just like this one. All in all you should spend between three and four hours with me, but I hope you will get a great deal of information from the experience.

What do I have to do?
Take pictures, based on your photo assignment, of spaces in and around your home. Then we will talk about the photos.

Will it be difficult?
I don’t expect this to be hard. If you are a brand new computer user then this may not be a good experience for you. Some folks find it hard to use the technology and it is intimidating. We practiced today and if it is too hard, try not to worry, you can stop any time. If you send email regularly and have used Skype before this should be similar. Some people may be embarrassed when talking about times they have fallen or injured themselves. I hope you won’t, I have to tell the truth, I have been known to fall a few times myself. I hope it will be fun for both of us.

What happens if I get sick or injured?
Call 911 if it is an emergency or contact your physician.
Appendix J

NARBW Return Email

From: CONHNT@aol.com <CONHNT@aol.com> Sent: Wednesday, September 04, 2013 2:07 PM
To: Breeden, Lori Ellen Subject: Re: Proposed Breeden Research Project for older adults

Dear Lori,

Thank you for your correspondence regarding your research study. Please feel free to contact our members for recruitment as possible participants.

Please let me know if I can be of further assistance.

Warm Regards,

Connie Hunt, President
NARBW Indianapolis Charter Chapter

In a message dated 9/4/2013 9:49:53 A.M. Eastern Daylight Time, lebreeden@bsu.edu writes:

Hello Mrs. Hunt,

I’m Lori Breeden and I am an occupational therapist and a doctoral candidate in the Adult, Higher, and Community Education Program at Ball State University. I am writing to ask your permission to recruit participants for my research study from the Indiana chapter of the National Railway Business Women’s Association. My study is Titled “Exploring Older Adult Home Safety Education with Photo Elicitation via Telehealth.” I plan to examine client education regarding home safety by using digital photographs and web-based video technology.

I am looking for, older adults who are willing to digitally photograph areas of their home, providing a point of discussion about home safety that is based on their prior experiences. The study’s purpose is to explore the experience of a home safety education program for older adults, grounded in narrative learning and delivered electronically using digital photographs and web-based video technology. A secondary purpose is to contribute to the understanding of how occupational therapists provide client education as an intervention strategy in the emerging practice setting of telehealth.

I am seeking six, older adults for this study. Adults who may be eligible community dwelling older adults over the age of 65; have a fundamental knowledge of digital or cell phone photography, have a home computer that has an operating system using Windows XP SP3, Windows Vista or later versions; Mac OSX 10.6 and above, IPad iOS 5.0 or later; be familiar with the use of email, telephone, and willing to use V-See as a method of video communication.
I am looking for participants who are willing to meet with me twice in their home, each meeting will be about 30 to 60 minutes. Additionally this project will include three online video sessions, using a free software program, VSee with each session lasting 30 -45 minutes.

I appreciate how valuable your time is. At this point, I am hoping to simply receive a reply from you as the organizations representative stating that you would be willing to allow me to contact your members at a later date. An additional email will be sent to you at a later date designed to be forwarded to prospective participants explaining the parameters of the study.

Thank you for your assistance with this research,

Lori Breeden, MS, OTR

Cell phone: 317-997-7223

Email: lebreeden@bsu.edu
Appendix K

Southeast side Senior Center Return Email

Elaine Cates <elainec@southeastindy.org>
Fri 9/20/2013 1:41 PM
Hi Lori
Our Seniors at Southeast Community Service would love to work with you on your project
Thanks For Including Us
Elaine Cates
Senior Program Coordinator
317-236-7400 Ext 233
317-236-7415 Fax
317-409-6613 Cell
To work together to serve, strengthen and support our Neighbors in Southeast Indianapolis.

Breeden, Lori Ellen
Thu 9/12/2013 8:50 AM
Sent Items
To:
elainec@southeastindy.org;

Hello Ms. Cates,

I’m Lori Breeden and I am an occupational therapist and a doctoral candidate in the Adult, Higher, and Community Education Program at Ball State University. I am writing to ask your permission to recruit participants for my research study from your organization. My study is Titled “Exploring Older Adult Home Safety Education with Photo Elicitation via Telehealth.” I plan to examine client education regarding home safety by using digital photographs and web-based video technology.

I am looking for older adults who are willing to digitally photograph areas of their home, providing a point of discussion about home safety that is based on their prior experiences. The study’s purpose is to explore the experience of a home safety education program for older
adults, grounded in narrative learning and delivered electronically using digital photographs and web-based video technology. A secondary purpose is to contribute to the understanding of how occupational therapists provide client education as an intervention strategy in the emerging practice setting of telehealth.

I am seeking six, older adults for this study. Adults who may be eligible

- community dwelling older adults over the age of 65; 
- have a fundamental knowledge of digital or cell phone photography, 
- have a home computer that has an operating system using Windows XP SP3, Windows Vista or later versions; Mac OSX 10.6 and above, IPad iOS 5.0 or later; 
- be familiar with the use of email, telephone, and willing to use V-See as a method of video communication.

I am looking for participants who are willing to meet with me twice in their home; each meeting will be about 30 to 60 minutes. Additionally this project will include three online video sessions, using a free software program, VSee with each session lasting 30 -45 minutes.

I appreciate how valuable your time is. At this point, I am hoping to simply receive a reply from you as the organizations representative stating that you would be willing to allow me to contact your members at a later date. An additional email will be sent to you at a later date designed to be forwarded to prospective participants explaining the parameters of the study.

Thank you for your assistance with this research,

Lori Breeden, MS, OTR

Cell phone: 317-997-7223

Email: lebreeden@bsu.edu
### Appendix L

**Demographic Data Collection Form**

Demographic Data Collection Form

Date: ______________________________

Client Identifier: ____________________

<table>
<thead>
<tr>
<th>Demographic information</th>
<th>Describe/Comments</th>
</tr>
</thead>
<tbody>
<tr>
<td>Age</td>
<td></td>
</tr>
<tr>
<td>Comfort with computer</td>
<td>1 2 3 4 5</td>
</tr>
<tr>
<td>Describe your health</td>
<td></td>
</tr>
<tr>
<td>How many people live in home, what ages</td>
<td></td>
</tr>
<tr>
<td>Pets in home</td>
<td>Yes  No</td>
</tr>
<tr>
<td>Owns home</td>
<td>Yes  No</td>
</tr>
<tr>
<td>Rents</td>
<td>Yes  No</td>
</tr>
<tr>
<td>How many levels</td>
<td></td>
</tr>
<tr>
<td>Urban neighborhood</td>
<td>Yes  No</td>
</tr>
<tr>
<td>Suburban neighborhood</td>
<td>Yes  No</td>
</tr>
<tr>
<td>Rural neighborhood</td>
<td>Yes  No</td>
</tr>
<tr>
<td>Socio-economic status</td>
<td></td>
</tr>
<tr>
<td>Outside support available</td>
<td>Yes  No</td>
</tr>
<tr>
<td>Are you a member of a church community</td>
<td>Yes  No</td>
</tr>
<tr>
<td>What do you do for fun</td>
<td></td>
</tr>
<tr>
<td>Do you drive</td>
<td>Yes  No</td>
</tr>
<tr>
<td>Any restrictions on driving</td>
<td>Yes  No</td>
</tr>
<tr>
<td>Level of education obtained</td>
<td></td>
</tr>
<tr>
<td>Do you own a cell phone</td>
<td>Yes  No</td>
</tr>
<tr>
<td>Do you have children</td>
<td>Yes  No</td>
</tr>
<tr>
<td>Do you have grandchildren</td>
<td>Yes  No</td>
</tr>
</tbody>
</table>
Appendix M

VSee Brochure

VSee is a secure video chat, screen share, and medical device streaming telehealth software for 2M+ Americans.

VSee Customers:
- MDLIVE
- Sentara
- Intermountain
- Kaiser Permanente
- NIH
- NASA
- Navy SEALs
- Shell
- UCSF
- Harvard
- International SOS

**HIPAA Video Chat**

VSee uses end-to-end 256-bit AES, FIPS 140-2 compliant encryption to guarantee that your conversation is always private and confidential.

**EHR Screen Share**

VSee allows one-click sharing of medical charts and treatment instructions with live annotation to make explanations clear.

**Medical Devices Integration**

VSee integrates with various medical devices including stethoscope, otoscope, dermatoscope, and ultrasound. It allows for the simultaneous sending of up to 4 camera feeds as well as remote pan, tilt, zoom camera control.

**API for One-Click Web Calling**

The VSee API makes patient-doctor interactions simple with its easy no-install one-click web calling. The VSee API also supports complex medical workflows such as virtual exam rooms, and call triage.

**Low Bandwidth HD and 3G Mobility**

VSee achieves HD video at half the bandwidth of Skype and Cisco - making HD video practical over consumer networks. An NIH paper published in the Journal of Telemedicine and eHealth shows that VSee works well even over 3G networks in rural America, unlike Cisco and Polycom systems.

**A Simple, Intuitive User Experience**

VSee is based on Stanford University human factors research on creating and conveying trust over video and is designed by Dr. Milton Chen (co-author of XMPP video standard), Prof. Terry Winograd (PhD advisor to Google co-founder Larry Page), Prof. Pat Hanrahan (two-time Academy Award Winner), and David Kelley (founder and chairman of IDEO).

Get VSee HIPAA Video Conference for Free at VSee.com
“VSee is a godsend. It’s really the only tool we’ve found that has been a seamless solution for us. VSee combined with satellite capability is easy to set up and makes doing telemedicine work in the disaster relief field possible. It changed the scope of everything we were doing and tremendously increased our success rate with patients.”

Randy Roberson, CSO of All Humanity Group, President of DLR

“VSee was selected for videoconferencing because... its data rates could go as low as 50 Kbps for video, it could support remote control of PTZ cameras, it provided secure encrypted video transmission, and its video looked superior to other low-bandwidth products.”

Teledermicide and eHealth - National Institute of Health “Video Medical Interpretation Over 3G Cellular Networks” article

VSee.com/telemedicine