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Evidence-Based Health Literacy Training Program for Occupational Therapy Professionals : Program Development and Evaluation

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Capstone Project:
An Evidence-Based Health Literacy Training Program for Occupational Therapy Professionals:
Program Development and Evaluation

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Abstract

This capstone project is a training program development and evaluation project. The purpose of the project was to develop, pilot, and evaluate an *evidence-based health literacy training program* for occupational therapy professionals. Occupational therapy strives to be a science-driven profession, which provides client-centered care. Health literacy is a client-centered factor for which occupational therapy professionals require additional training to best serve their clients in all settings and across the lifespan. A review of health literacy literature was used in this project to develop the training program and offers a science-driven approach to this client-centered factor for occupational therapists to better serve their clients and their families. This program development project included pilot presentations of the training program at two locations, followed by the collection of feedback from the participants. The feedback was used to conduct a training program evaluation, which offered a platform for enhancements for future versions of the training program. The final objective of the project is to offer a program improvement plan and subsequently publish the *evidence-based health literacy training program* to make it available to all practicing occupational therapy professionals.

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Introduction

The World Health Organization considers health literacy a compilation of client factors, which entails clients' abilities to make judgments and decisions in "everyday life concerning health care, disease prevention and health promotion to maintain or improve quality of life" (Kickbusch, Pelikan, Apfel, & Tsouros, 2013, p. 4). Health literacy has been defined as "the degree to which individuals have the capacity to obtain, process, and understand basic health information and services needed to make appropriate health decisions" (Seldon, Zorn, Ratzan, & Parker, 2000, p. vi). The Occupational Therapy Practice Framework: Domain and Process (The Framework; 3rd Edition; AOTA, 2014) suggests that occupational therapy services are provided for promotion of health and wellness for their clients. Occupational therapy professionals have an ethical and clinical obligation to become knowledgeable about health literacy to provide "effective and safe treatment" (Smith and Gutman, 2011, p. 369). Health literacy is a public health issue with relevance that transcends all occupations across the lifespan. Health literacy is a client factor that places the client at greater risk for poor health outcomes and limited access to health information, which could be mitigated through proper training and education of health care professionals (United States [U. S.] Department of Health and Human Services [HHS], 2010b). The purpose of this capstone project was to develop and evaluate an *evidence-based health literacy training program* for occupational therapy professionals, aimed at better preparing occupational therapy professionals to identify and address clients' health literacy skills.

Background

Health literacy is an issue at the forefront of current healthcare policy (Center for Medicare and Medicaid Services [CMS], 2001; Federal Plain Language Guidelines, 2011), and has been identified as a key issue in which health care professionals require additional education (White, 2008; U.S. HHS, 2010a; U.S. HHS, 2010b). Over one third of U.S. adults have limited health literacy skills (DeWalt et al., 2010). Limited health literacy skills place individuals at risk for poor health outcomes and inadequate use of health care services (Berkman, Sheridan, Donahue, Halpern, & Crotty, 2011). It has been estimated that the costs associated with the lack of action to address limited health literacy in the United States, such as offering health care provider education programs, may be between $1.6 and $3.6 trillion (Vernon, Trujillo, Rosenbaum, & DeBuono, 2007)

Need for the Project

The Joint Commission (2009) suggested that health care providers and health care organizations do not typically have an understanding of the severity of the impact that limited health literacy has on their patients and their caregivers. Mackert, Ball, & Lopez (2011) stated that there is "an opportunity and a need to improve health literacy training for healthcare workers of all kinds" (p. e225). Additional continuing education on improved communications between provider and client, and health literacy has been recommended for occupational therapy professionals to better meet the needs of their clients and influence their clients' health, wellness, and health care outcomes (Fisher & Frieshma, 2013; Schubert, & Barnekow, 2011; Smith & Gutman, 2011; Volz, 2006). For the first time in 2013, the Accreditation Certification Occupational Therapy Education Standards (Accreditation Council for Occupational Therapy Education [ACOTE], 2012b)

included health literacy education requirements for all occupational therapy professional programs. However, the new accreditation standards do not extend to practicing occupational therapy professionals, since they only impact entry-level occupational therapy education programs.

In 2007, the American Medical Association published its guide entitled *Health Literacy and Patient Safety: Help Patients Understand*, which is a training manual designed to improve physicians' understanding of health literacy (Weiss, 2007). This guide offers continued medical education (CMEs) units for physicians and is designed to enable physicians to understand the scope of health literacy, recognize the barriers their clients with limited health literacy may face, and suggested improved methods of communications and strategies to create a shame-free environment for their clients with limited health literacy (Weiss, 2007). The guide is well designed for physicians and may be beneficial to occupational therapy professionals; however, it is not designed to educate occupational therapy professionals on strategies that are specific to occupational therapy practice. A gap exists in available health literacy training specifically designed for practicing occupational therapist professionals, since it has yet to be developed. There is an urgent need for health literacy training specifically designed for occupational therapy professionals aimed at utilizing their unique practice framework and theories, to more adequately address their clients' limited health literacy skills and to better achieve targeted health outcomes.

Capstone Project Objectives

The objectives for the *evidence-based health literacy training program* project included the following:

A. To investigate the literature, which supports the theoretical foundation and content to included in the development of an *evidence-based health literacy training program.*
B. To develop an *evidence-based health literacy training* program for occupational therapy professionals, intended as an educational requirement for practicing occupational therapy professionals.
C. To deliver two pilot presentations of the newly developed *evidence-based health literacy training program* to occupational therapy professionals and to collect feedback regarding the training.
D. To develop an improvement plan, intended to recommend future enhancements to the *evidence-based health literacy training program*, based on feedback collected from the pilot program participants.

Literature Review

The purpose of this literature review is to support the development of an *evidence-based health literacy training program* for occupational therapy professionals. Grossman and Bortone (1986) suggested a program development model designed to consider all factors that will help the program to be successful. The program development elements defined in the model include (a) a needs assessment; (b) program planning; (c) program implementation; and (d) program evaluation (Grossman & Bortone, 1986). The literature presented in this section of the capstone paper was reviewed and utilized to demonstrate the need for, and to plan the health literacy training program including the (a) needs assessment; and (b) program planning elements.

The Needs Assessment

A needs assessment is basically a systematic review of information that serves to identify and describe areas of need and available resources, with the purpose of supporting program development goals (Doll, 2010). The need for program development is often supported by demographic data, epidemiological data, the needs of the targeted population, and evidence, which supports the program (Fazio, 2008). An assessment of the need to develop the health literacy training program included a review of literature which reflects the (a) history of health literacy; (b) impact of health literacy on the client; (c) impact of health literacy on the occupational therapy profession; and (d) health literacy education currently available.

History of health literacy. It has been suggested that the evolution of the concept of health literacy began with a love story between Leonard and Cecelia Doak, who have been widely acknowledged for leading the way with regards to health literacy during the start of their marriage in 1973 (Doak, Doak, & Root, 1996). Leonard was an engineer, who volunteered as a literacy tutor in the United States. Cecelia was a commissioned officer and health educator in the United Stated Public Health Service, charged with developing ongoing education for physicians and health care professionals. Through their many conversations during their marriage together, they discovered and suggested that people who could not read or write could not possibly understand medical advice or information (Doak et al., 1996). Their original goal for addressing health literacy was to help health care providers assist patients to leave their appointments understanding what to do and how to do it (Schwartzberg et al., 2005).

The field of health literacy began to emerge in the 1990s, when the low literacy levels of American adults were discovered and studied, and a link between education and health was identified (White, 2008). It has been suggested that more than 47 million adults in the US performed at the basic health literacy level, and 30 million adults in the US were below the basic health literacy level; representing 81 million U.S. adults, or 81 million U.S. adults had limited health literacy (White, 2008). Characteristics of adults with limited health literacy include the lack of basic reading skills, minimal exposure to the English language, poor health, no health insurance, engagement in fewer preventative measures, racial or ethnic minorities, older adults (65 years and older), or prison inmates (White, 2008). Training of health care providers was one recommendation suggested as a result of the findings of the 2003 NAAL (White, 2008). The increased attention to health literacy was also reflected in *Healthy People 2010* (U.S. HHS, 2000) and *Healthy People 2020* (U.S. HHS, 2010a); both included objectives to develop, track, monitor, and report on health communications and to improve health literacy of people with inadequate or marginal levels of literacy. Since that time, several additional published reports have drawn attention to the impact of limited health literacy; each has provided supporting information on the impact of limited health literacy on health care costs and outcomes (Berkman et al., 2004, Nielsen-Bohlman et al., 2004; White, 2008).

The impact of health literacy on the client. An understanding of the differences between literacy, health literacy, and limited health literacy and their impact to the client is provided in this section to create a foundation of terminology and a connection between health literacy and the needs of the client. Literacy, as opposed to health literacy, has been defined as "an individual's ability to read, write, and speak in English; and

compute and solve problems at levels of proficiency necessary to function on the job and in society, to achieve one's goals, and develop one's knowledge and potential" (National Literacy Act, 1992, p. 1). Health literacy skills include more than literacy skills; they also require a complex group of skills and abilities to apply these skills to health situations. For example, they also include, but are not limited to, the ability of individuals to understand nutritional labels, prescription instructions, medical instructions, consent forms, medical insurance benefits, medical education literature, and medical provider's instructions. Health literacy skills also include the ability to navigate the complex health care system. "Health literacy is about communicating health information clearly and understanding it correctly" (Osborne, 2013, p.1). The definition of health literacy seems to be constantly in flux since its initial use in 1974 (Schwartzberg, VanGeest, & Wang, 2005). Several organizations have adopted the most widely used definition of *health literacy* (Nielsen-Bohlman, Panzer, Hamlin, & Kindig, 2004; U.S. HHS, 2010b; Weiss, 2007) as "the degree to which individuals have the capacity to obtain, process, and understand basic health information and services needed to make appropriate health decisions" (Seldon et al., 2000, p. 1). This is the definition that has also been adopted for purposes of this capstone project.

Limited health literacy is defined as the "limited ability to obtain, process, and understand basic health information and services needed to make appropriate health decisions and follow instructions for treatment" (Weiss, 2007, p. 6). Limited health literacy is associated with several unfavorable client outcomes including less participation in health-promotion and disease detection activities, riskier health choices (such as higher smoking rates), more work-related accidents, diminished management of

chronic diseases (such as diabetes and asthma), poor adherence to medication, increased hospitalization and re-hospitalization, increased morbidity, and premature death (Kickbusch, Pelikan, Apfel, & Tsouros, 2013). Limited health literacy affects individuals in several ways, including limited health knowledge, higher rates of health services utilization, and higher rates of health care costs (Schwartzberg et al., 2005). Berkman et al. (2004) associated limited health literacy with several additional adverse health outcomes including "low health knowledge; increased incidence of chronic illness; poorer intermediate disease markers; and less than optimal use of preventive health services" (p. vi). Berkman, Sheridan, Donahue, Halpern, & Crotty (2011) later went on to suggest that low health literacy was also associated with "poorer health outcomes and poorer use of health care services" (p. 97). Overall health knowledge is also impacted by limited health literacy including limitations in understanding the impact of cigarette smoking on overall health (Arnold et al., 2001); the correct use of an asthma inhaler to prevent asthmatic episodes (Williams, Baker, Honig, Lee, & Nowlan, 1998); and the benefits of preventative testing, such as mammograms (Davis et al., 1996). Individuals with inadequate health literacy had worse self-reported physical function and mental health (Wolf, Gazmararian, & Baker, 2005), and demonstrated reduced diabetes management (Wallace, 2010). Individuals with limited health literacy had worse self-reported physical function, mental health, difficulties with activities of daily living, and instrumental activities of daily living (Wolf, et al., 2005). Patients with limited literacy skills might also incur higher health care costs (Weiss et al., 1994). Patients with limited health literacy were nearly twice as likely to have been hospitalized during the previous year and to have poor self-reported health status than those with adequate literacy (Baker,

Parker, Williams, and Clark, 1999). Significant evidence has been cited throughout this literature review, which suggested the negative impact of limited health literacy on the client, their health knowledge, and their outcomes.

The United States health care system has become increasingly more complex and sophisticated through ongoing health care reform, requiring individuals to assume more responsibility to make independent and appropriate health care decisions based on their knowledge and understanding of health information. High-risk groups for limited health literacy include the elderly, low income, low educated, unemployed, ethnic minorities, recent immigrants to the US and English speaking as a second language (Weiss, 2007). Staggering facts regarding the impact of limited health literacy on health care outcomes and costs have lead health care providers to pay closer attention to the impact of limited health literacy on their clients and the health care industry. Current costs associated with the lack of public action to reduce the impact of limited health literacy have been estimated between $1.6 trillion to $3.6 trillion (Vernon et al., 2007). These costs could be attributed to individuals' inabilities to navigate the complicated health care system, understand their need to engage in preventative and early detection services, and failure to follow the treatment plans defined by their health care providers due to low health literacy.

Impact of health literacy on occupational therapy practice. Literature will be reviewed in this section, which reflects the impact of health literacy on the practice of occupational therapy and the services provided by occupational therapy professionals . Occupational therapy practitioners have an ethical and clinical obligation to become knowledgeable about health literacy to provide "effective and safe treatment" (Smith &

Gutman, 2011, p. 369). The Affordable Care Act (ACA; CMS 2010) is putting pressure on health care providers to provide value-based care by providing payment incentives for quality care and outcomes. The ACA is seeking providers who are successful in preventing unnecessary and avoidable events, such as falls or other medical complications, which may cause hospital readmissions (Fisher & Friesman, 2013). Occupational therapy professionals are providers who have the opportunity to prevent such avoidable events through the care and education of their clients and caregivers related to (a) client home safety and fall prevention; (b) environmental modifications to improve compliance with medication and medical instructions; (c) strategies on skin inspection, proper seating, splints, and positioning devices; (d) instructions on activities of daily living to include proper precautions; and (e) home programs to include health promotion. Occupational therapy professionals possess a "skill set to analyze patients' abilities, the environmental risk, and the complexity of the desired task in relation to the person and the environment that plays a key role in developing a sustainable program in any hospital as well as post discharge" (Fisher & Friesma, 2013, p. 504). This skill set, along with an expanded knowledge about health literacy and strategies to reduce the impact of limited health literacy, would better position occupational therapy professionals to meet the needs of patients and the demands of the ACA (Fisher & Friesma, 2013; Voltz, 2006). The *evidence-based health literacy training program* proposed in this Capstone project includes educational content regarding the impact of limited health literacy on the practice of occupational therapy, and strategies to better prepare occupational therapy professionals to best meet each person's individual needs and abilities.

AOTA documents. The AOTA offers several documents that steer the occupational therapy professional's practice patterns and may help define the role of the occupational therapy professional in addressing their clients' health literacy. This section of the literature review offers a connection between health literacy and available documents published by the AOTA, which steer the occupational therapy profession. The Occupational Therapy Practice Framework: Domain and Process (The Framework; 3rd Edition; AOTA, 2014) does not make direct mention of health literacy. The Framework suggests a connection exists between occupation and health, and supports health promotion through engagement in occupation (AOTA, 2014). In order for occupational therapy clients to engage in everyday health promotion activities and occupations, they need to obtain, process, and understand health information to make appropriate health decisions for optimal health and well-being.

The AOTA's Societal Statement on Health literacy suggests that occupational therapists can promote health through the use of education approaches and the use of health related information and services that match the client's literacy abilities (Pizur-Barnekow & Darragh, 2011). Limited health literacy is one reason that clients may not understand what occupational therapists teach them during the occupational therapy education intervention. The societal statement offers occupational therapy professionals a statement by the AOTA that health literacy is a global societal concern that is of concern to occupational therapy professionals and their clients. It goes on to suggest that occupational therapy professionals can work to promote health through providing understandable, accessible, and usable education materials and approaches that match their clients health literacy levels ((Pizur-Barnekow & Darragh, 2011).

The provision of effective client and caregiver education is essential for the clients and their caregivers to make effective health care decisions, and appropriately self-direct their medical care (Bastable, 2006; Falvo, 2011). However, health care providers have cited many potential barriers to teaching their clients, including not having enough time to teach effectively, not feeling competent to teach, and not having access to effective teaching environments or materials (Bastable, 2006; Falvo, 2011; London, 2009). An effective client education program is measured by the client's ability to recall and apply newly learned information (London, 2009; Schillinger et al., 2003). Evidence has suggested that effective patient education can improve patient safety (Haines, Hill, Bennell, & Osborne, 2006; Shojania, Duncan, McDonald, & Wachter, 2001), improve patient satisfaction (Bertakis, 1977; Tung, & Chang, 2009), and better prepare clients for discharge home (Bastable, 2006; Falvo, 2011). "Client education is a major component of everyday health care practice" (DeCleene et al., 3013, p. 1), and therapists should be prepared to implement creative client education strategies and expand their understanding of the role that client education has on improving occupational performance outcomes. Recommendations have been made to key professional groups regarding health literacy, based on the services they provide, one of which included the need for *training of health care providers on health literacy* (White, 2008). With appropriate health literacy education, occupational therapy professionals will develop improved knowledge, skills, and competencies related to effective client-centered education communications that will contribute to their clients' overall health and well-being.

The AOTA's Occupational Therapy Code of Ethics and Ethic Standards (AOTA, 2010) includes ethical standards, which promote and maintain high standards of conduct in the professions. Several ethical principles pertain to health literacy and to the occupational therapy professionals' obligation to attain and maintain competence in all areas that will promote just, fair, and effective delivery of occupational therapy services, including the following:

1. Occupational therapists will understand how their services can be affected by factors, such as economic status, age, ethnicity, race, geography, disability, gender, and culture, many of which impact clients' health literacy levels.

2. Occupational therapist will provide services within their level of competence and take steps to seek out continuing education to ensure ongoing competence.

3. Occupational therapist will take responsible steps and take responsibility for educating others about the value of occupational therapy services, promoting health and wellness, and reducing the impact of disease and disability.

4. Occupational therapists will take every effort to facilitate open dialogue with clients and/or caregivers to facilitate an understanding of the services and the potential risks/benefits, which can be impacted by client's limited health literacy.

5. Occupational therapists will advocate for just and fair treatment for all patients, clients, employees, and colleagues and encourage employers and colleagues to abide by the highest standards of social justice and the ethical standards set forth by the occupational therapy profession (AOTA, 2010).

Social and cultural disparities. Social and cultural factors that may influence health literacy exist and will be further explored in this section. Occupational therapists have long recognized culture and ethnicity as underlying client factors that may impact the therapist's ability to provide services in a fair and equitable manner. (AOTA, 2008; AOTA, 2010). Health literacy is a client factor, which can impact clients' access to health information resources required to manage their health. Health disparities emerge from social inequalities, and health literacy is one such inequality that has higher demands placed on it by the complicated US health care system (Rudd, 2009). Client related outcomes associated with these client factors include access to and participation in a full range of occupations afforded to all, including opportunities for social inclusion and resources to manage ones own health (AOTA, 2009). Occupational justice is defined as the occupational therapy profession's "concern with the ethical, moral, and civic factors that may support or hinder health promoting engagement in occupations and participation in home and community life" (AOTA, 2008, p. 630). The occupational therapy profession must be concerned with the disparities that health literacy places on their clients, and promote engagement in health promotion and management.

Ethnic minority clients tend to be less verbally expressive and "less assertive and affective during the medical encounter than White patients" (Schouten & Meeuwesen, 2006, p. 21). Immigrants' health deteriorates after they enter the United States (Allen, Matthew, & Boland, 2004) due to their difficulty accessing and utilizing U.S. health care (Huang & Ledsky 2006). Health literacy may influence health communications and add an additional dimension to the challenges of effective communication, further complicating clients' understanding of the health information that is needed for clients to

make appropriate health decisions or their health literacy. The use of culturally sensitive approaches and paying attention to client-centered cultural variables may reduce the "extent of problematic communication in intercultural medical encounters" (Schouten & Meeuwesen, 2006, p. 32).

Accreditation Council for Occupational Therapy Education. The ACOTE recognizes educational institutions that meet the education accreditation requirements and encourages "maximum educational effectiveness" (ACOTE, 2012a, p. 1). For the first time, the 2011 ACOTE Standards and Interpretive Guidelines, effective in July 2013 (ACOTE, 2012b), have been expanded to include health literacy standards for doctoral, masters', and associates' programs. Health literacy related ACOTE standards include those that refer to health & wellness, health promotion, health management, health maintenance, prevention, training of the client, diversity, socio-cultural injustices, communication, and health literacy (AOTE, 2012b). These newest standards support the importance of health literacy education in occupational therapy curriculums for entry-level occupational therapists. However, these standards will first require faculty to develop their individual health literacy competencies and successfully embed health literacy concepts into their courses, and will also require some form of health literacy education for practicing occupational therapy professionals, which this Capstone aims to accomplish.

Health literacy education currently available. This section of the literature review explores health literacy education available to other health care professionals, which may currently exist and prove beneficial for the occupational therapy professional. The Joint Commission on the Accreditation of Health Care Organizations (JCAHO;

JCAHO, 2009) suggested that health care providers and health care organizations do not typically have an understanding of the severity of the impact that limited health literacy has on their patients and their caregivers. Many doctors and health care executives recognize the devastating impact of low health literacy on their patients; however, only 25% of administrators offer training to their staff (The California Health Literacy Initiative, 2003). Physicians' opinions suggest that patients with lower health literacy received lower quality care, and they know of at least one case with a serious medical error and three reports of death that were a result of limited literacy skills (The California Health Literacy Initiative, 2003). However, physicians have indicated "only a small percentage of physicians actually ever receive any health literacy training, and that it undermines their ability to adequately address their patients' literacy problems" (The California Health Literacy Initiative, 2003, p. 3). The guide entitled *Health Literacy and Patient Safety: Help Patients Understand,* developed for physicians offers health care professionals health literacy education; however is focused primarily on physician practices (Weiss, 2007).

Allied health professions. An investigation of occupational therapy's neighboring professions' literature and practice standards may provide occupational therapy professionals additional resources to help them better address health literacy in their practice. The American Physical Therapy Association (APTA) does not have a published position statement, societal statement, nor professional education related to health literacy. Neither the APTA *Standards of Practice for Physical Therapy* (APTA, 2013a), nor the *Code of Ethics for Physical Therapists* (APTA, 2012) make any mention to health literacy as a key practice concern. The APTA makes some resources and training

available for physical therapy professionals on their Regulatory/Governmental Curriculum Resources Web page (APTA, 2013b). The APTA refers to the page as the "building blocks of health literacy" (APTA, 2014, para. 1); however, all of these resources have been published by other professional organizations and are not specific to physical therapy. Some of the resources included on this Web page included the American Medical Association's *Prescription to End Confusion* (Nielsen-Bohlman, et al., 2004), the Institute of Medicine's *Ten Attributes of a Health Literate Organization* (Brach et al., 2012), the *Center for Medicare and Medicaid's Toolkit for Making Written Materials Clear and Effective* (McGee, 2010a), the Joint Commission's Facts About Patient Centered Communications (The Joint Commission, 2013), and the National Patient Safety Council's (2012) Ask Me 3 program.

The American Speech and Hearing Association's (ASHA) Scope of Practice refers to health literacy under prevention and advocacy (ASHA, 2007). Individuals with speech-language and hearing disorders are suggested at particular risk for limited health literacy, and there is a role for speech-language professionals to collaborate with other health care professionals to aide in improving health literacy throughout the United States (Hester & Stevens-Ratchford, 2009). ASHA has provided their professionals with several resources related to health literacy on their Web page entitled Health Literacy (ASHA, 2013). This Web page offers speech pathology members with several links that explain health literacy: why is it important, the role of speech language pathologist in health literacy, and strategies that can be used in practice. The ASHA Web site also offers members a link to an online webinar entitled "Communicating with Patients and Families: Developing Clear Written Information" (Hasselkus & Moxley, 2013, para 1). This

educational webinar provides a broad overview of several communication barriers related to client factors, including cultural diversity, linguistics, and health literacy, but it has a gap in the education and relevant evidence regarding health literacy. It provides an overview of how speech professionals may address limited health literacy, but is restricted to strategies to improve written health materials and are very specific to the role of the speech therapy professional (Hasselkus & Moxley, 2013).

The need for an *evidence-based health literacy education program* has been supported by the literature which has reflected the need for occupational therapy professionals to be exposed to health literacy history and terminology, client factors, and risks associated with limited health literacy. The need has been further supported by the literature reflecting the connection to the occupational therapy profession and lack of health literacy education available to occupational therapy professionals.

Program Planning

This section provides a summation of the concepts used by the program author to plan the *evidence-based health literacy training program*. Program planning in Grossman & Bortone's (1986) program development model includes defining the theoretical perspective, establishing program objectives, and defining the program focus. Literature presented was used to formulate a theoretical foundation for the training program and to identify and describe its objectives and focus. This section of the literature review substantiates the planned content for the training program including the (a) theoretical foundation of the program; and (b) program objectives and focus.

Theoretical foundation of the health literacy training program. The theoretical foundations of the *evidence-based health literacy training program* will be

presented in this section. The theories of adult learning and Bloom's taxonomy were the educational theories used to develop a successful learning experience for the occupational therapy professional. The content of the program was planned using three more clinical theoretical approaches that can be applied to health literacy education for clinicians including: (a) the health literacy skills conceptual framework; (b) person-environment-occupation-performance model of care; and (c) international classifications of function.

Adult learning theory. The training program content has been planned and developed based on concepts of adult learning theory, since it was developed as a voluntary continuing education program intended for practicing professionals. Andragogy offers a scholarly approach to the assumptions of how adults learn and suggests that adult learners are self-directed, self-motivated, and desire relevancy in their learning opportunities (Bastable & Dart, 2011). Andragogy is an adult learning theory, which has been used for years as a useful framework in guiding patient education and continuing education for staff (Bastable & Dart, 2011), and will serve as a useful approach when teaching health literacy to occupational therapy professionals. The professionals' (a) self-motivation to learn more about health literacy, (b) their existing foundation of clinical knowledge, and the (c) relevancy of learning about health literacy to their role as health care educators; are the adult learning theory principles, which will guide the development of the training program.

Bloom's taxonomy. Bloom's taxonomy was used to develop the learning objectives for the training program. Bloom's cognitive domains of learning suggest that the knowledge and development of intellectual skills occurs in six major categories, which instructors may want to use when developing their course learning objectives

(Weisburg, 2012). The emphasis of Bloom's taxonomy on intellectual outcomes suggests that the six levels should be covered in each course, including at least one objective for each level. The six categories include knowledge, comprehension, application, analysis, synthesis, and evaluation; each level becomes progressively more complex and should build on the previous level (Bouchard, 2011). The success with the higher-level synthesis and analysis of the knowledge is dependent on the foundation of knowledge of the learner from the lower level objectives (Anderson & Krathwohl, 2001). During the training program participants are taken through a series of increasingly complex learning activities that progress them through learning objectives which require them to demonstrate their increased ability to understand, define, describe, and select tasks related to the concepts of health literacy. The training program does not include objectives that require participants to demonstrate, analyze, or conclude skills based on the health literacy concepts taught during the training program.

The health literacy skills conceptual framework. The plan to include the health literacy skills (HLS) framework as a theoretical foundation for the *evidence-based health literacy training program* was supported since it encompasses the full continuum of health literacy and hypothesizes the relationship between health literacy and health-related outcomes (Squires et al., 2012). The HLS framework offers occupational therapists a client-centered health literacy framework to carefully consider the interactions between several constructs associated with health literacy skills, and aligns well with the occupational therapy person-environment-occupation-performance (PEOP) model of care (Baume & Christiansen, 2005).

The HLS framework is a theoretical framework developed by Research Triangle Park (RTP) and introduced as a basis for reliable measurement of health literacy, and can be used to guide the development of interventions to improve health literacy (Squires, Peinado, Berkman, Boudewyns, & McCormack, 2012; see Figure 1). RTP is located in North Carolina, and is comprised of universities located in the triangle between North Carolina State University in Raleigh, Duke University in Durham, and North Carolina at Chapel Hill, and at Central University in Durham (RTI International, n.d.). Squires et al. (2010) suggests that the HLS framework "depicts how health literacy functions at the level of the individual" (p, 30) and "reflects on how factors external to the individual (e.g., family, setting, community, culture, and media) influence the constructs and relations represented in the framework" (p, 30). The view that this theory takes on the individual and the influence of the external factors on the individual is consistent reflects parallels to the Framework for occupational therapy. The four primary constructs of the HLS framework include "(a) factors that influence the development and use of health literacy skills; b) health-related stimuli; c) health literacy skills needed to comprehend the stimulus and perform the task; and d) mediators between health literacy and health outcomes" (Squiers et al., 2012, p. 30). The HLS conceptual framework offers an alternative perspective from other frameworks regarding health literacy by considering how health literacy skills influence the comprehension of health-related stimuli, or "what to do or how to do it" (Squiers et al., 2012, p. 49), and how health-related behaviors and outcomes are mediated by a variety of factors including motivation, self-efficacy, access to health care, and perceived relevance (Squiers et al., 2012).

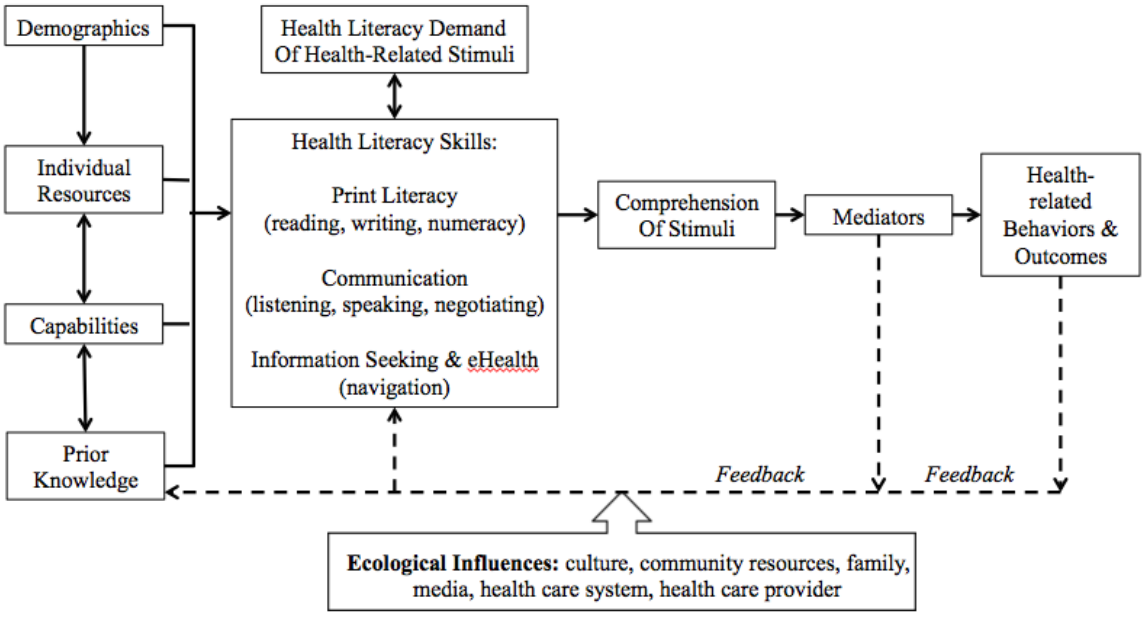

Figure 1. The RTI, International's health literacy skills conceptual framework. Adapted from "The health literacy skills framework," by L. Squiers, S. Peinado, N. Berkman, V. Boudewyns, and L. McCormack, 2012, *Journal of Health Communications, 17*, p. 47. 2012 by Taylor and Francis Group, LLC.

***Person-environment-occupation-performance model of care*.** The person–environment–occupational performance model (PEOP; Baum & Christiansen, 2005) examines the complex interaction of the person and their environment, and how this interaction facilitates or hinders performance of the tasks necessary for people to effectively manage their health. The PEOP model was developed in 1985 and originally published by Carolyn Baum and Charles Christiansen then updated in 1997. This client-centered approach to care has become a cornerstone in the provision of occupational therapy services and suggests a transaction of its three core elements of person, environment, and occupation and defines the outcome of this complex transaction as occupational performance (Cole & Tufano, 2008).

A client's functional health literacy is achieved by the transaction between individual-level health literacy attributes and the characteristics of the specific information being communicated (Schwartzberg, et al., 2005). Using the theoretical lens of the PEOP the occupational therapy professional can offer an expertise to approach health literacy considering the transactions reflected in the PEOP model (Fisher & Friesma, 2013). Individuals with functional health literacy possess the skills and abilities to successfully function and perform functional health literacy tasks or *health literacy occupations,* such as (a) reading and interpreting prescription bottles, (b) searching and understanding online for health information, (c) comparing nutritional labels for selecting healthy foods in grocery stores, and (d) comprehending the effect of over the counter drugs (Schwartzberg, et al., 2005). Functional health literacy may be defined as the skills and abilities to understand, access, and apply health information to successfully function and complete tasks that result in appropriate health care decision and impacting overall health and well-being. Occupational therapists will be better prepared to address *health literacy occupations* in the provision of occupational therapy by considering the transaction between the health literacy attributes of an individual (person), the health literacy occupations they need to perform (occupation), and the characteristics or barriers in the environment (environment) in which they need to perform the occupation. The occupational therapy professional must balance this transaction by understanding and adjusting the demands on the client, resulting in improved functional health literacy and overall health and well-being (occupational performance outcomes).

Most health literacy models or frameworks do not consider the "full spectrum of individual factors, the complexity of environmental demands, and the specific

components of the tasks necessary in order for individuals to successfully maintain health in the broadest sense" (Smith & Hudson, 2012, p. 3). The use of the PEOP model as a framework to identify effective clinical strategies and barriers related to health literacy, and to improve health outcomes has been previously supported by literature (Smith & Hudson, 2012). Many health literacy models have already begun to shift their view of health literacy to "an interaction between the skills of individuals, and the demands of health systems" (Smith & Hudson, 2012, p. 4). These health literacy models are often very complex and developed by physicians; and include components, such as the individual, the health care environment, and the activities involved in health care management (Smith, & Hudson, 2012). The PEOP model is a client-centered model, which outlines the comprehensive identification of factors, which may influence health literacy and the "multiple tasks and abilities necessary for performance and participation in the occupation of managing health (Smith & Hudson, 2012, p. 10; Figure 2). Occupational therapists should not focus on improving the health literacy skills of their clients; they should focus on making changes in the face of their clients' existing skills (Rudd, 2009). Occupational therapists need to analyze the health literacy occupations that their clients must undertake and link those tasks to their health literacy skills and their environment to better understand and adjust the demands on the client (Rudd, 2010b). The adapted PEOP model (see Figure 2) provides a complete framework suggesting the interaction between the individual, the environment, and the occupations necessary to promote the occupation performance of managing health and health literacy, and will serve as a foundation for the *evidence-based health literacy training program*.

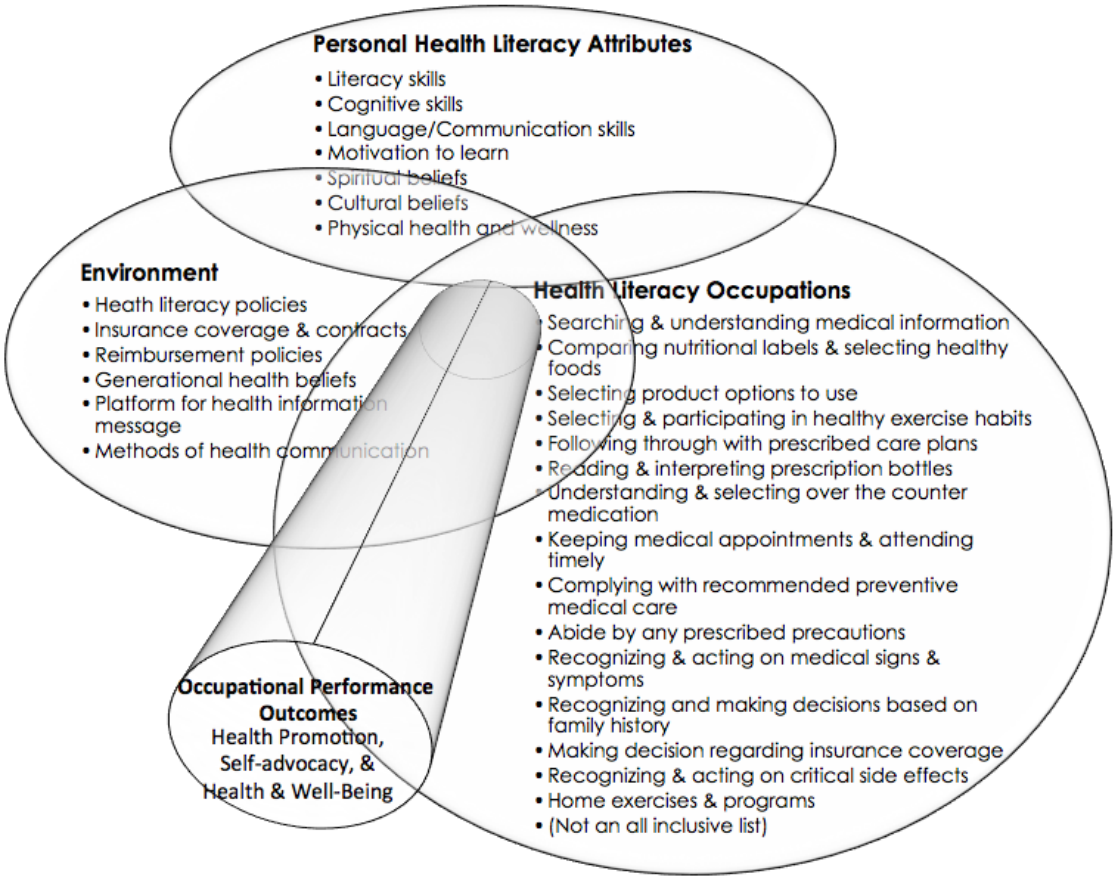

Figure 2. This proposed adapted model is intended to illustrate the transaction between the person, environment, and health literacy occupations to impact overall functional health literacy and is based on PEOP model. Adapted from *Occupational Therapy: Performance, Participation, and Well-being* (3rd ed.) (p. 242), by C. M. Baum and C. H. Christiansen, 2005, Thorofare, NJ: Slack Inc. Copyright 2005 by Slack Inc.

International classification of function. The World Health Organization has defined health literacy as "the process of enabling individuals to increase control over and to improve their health condition," and references literacy skills within the health domain (Haun, 2010, p. 673). Limited health literacy may be viewed within the context of the International Classification of Function *(*ICF) as a limited cognitive function, which affects the psychological structure of the client (Haun, 2010). Haun (2012) suggests that this cognitive limitation "can adversely affect an individual and their health

care process and outcomes in many ways" (p. 678), and that "adequate health literacy is critical for functioning efficiently throughout the health care process" (p. 678). Figure 3 illustrates health literacy within the context of the ICF for consideration by occupational therapy practitioners. The plan is to include training on the ICF health literacy framework during the *evidence-based health literacy training program* to provide occupational therapy professionals an understanding of where health literacy falls within the larger scope of the individual as a whole, and all of the conditions of function within the ICF.

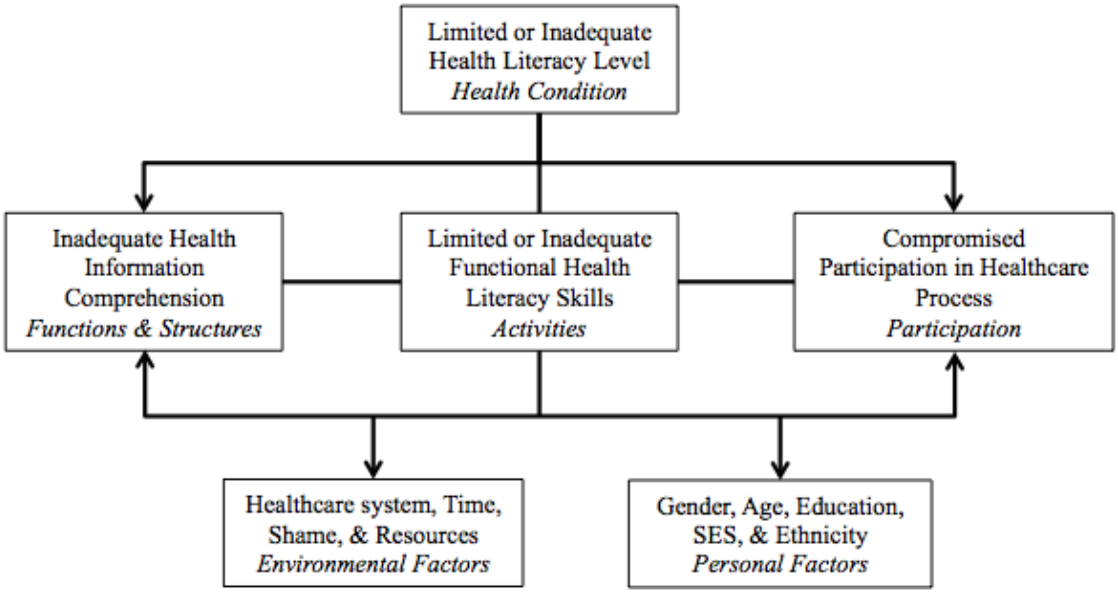

Figure 3. This figure illustrates health literacy within the context of the ICF. Adapted from *Rehabilitation and Health Assessment: Applying the ICF Guidelines* (p. 678), by J. Haun, 2010, New York: Springer Publishing. Copyright 2010 by Springer Publishing Company.

Program objectives and content focus. Planning for the content of the *evidence-based health literacy training program* began with a review of literature supporting the theoretical foundation of health literacy. Specific content was further planned based on a review of literature published in the past ten years, which supports effective clinical

approaches to health literacy. The training program objectives and content focus developed by the program author are represented in Table 1 and will be further explored throughout this section of the literature review. Each element reviewed in this section is planned content for the *evidence-based health literacy training program* (see Table 1).

Table 1

Evidence-Based Health Literacy Training Program Content List

Objective	Content Focus
Introductory concepts	• Theoretical foundation of health literacy • Health literacy terminology, evidence, & outcomes • Assessments: REALM & TOFHLA • Newest Vital Sign screening • Universal Precautions Toolkit
Verbal communications	• Plain language • The teach-back method
Written communications	• Toolkit for Making Written Material Clear & Effective
Self-management of health & wellness	• Health promotion • Patient activation & patient engagement • Ask Me 3
The environment	• Natural environment • Health care environment

Note: This table includes a list of evidence-based content supported by literature and will be included in the *evidence-based health literacy training program.*

Assessment of health literacy. It is challenging for occupational therapists to determine the a client's level of health literacy skills because questioning clients directly about health information or their literacy skills is usually not an effective means of determining their level of health literacy. Clients are often ashamed to admit their limitations and will often hide any existing problems (Schwartzberg et al., 2005). Therefore, rather that asking their clients directly about their level of health literacy,

occupational therapists need to assess their clients' capacity to obtain, process, and understand basic health information so that they can make appropriate health decisions. For example, to assess for functional health literacy occupational therapists would need to assess their clients ability to access, process, understand, and make decisions related to nutritional labels, cleaning product labels, exercise or safety instructions, insurance coverage, appointment cards, or medication warning labels.

Prior to 2005, there were no formal comprehensive standardized assessments available to accurately measure an individual's actual health literacy (Schwartzberg et al., 2005, p.157). However, several assessment tools offer a proxy by assessing the individual's ability to read health information in health care settings, but do not actually measure the clients ability to access, process, understand, and make decisions related to health information. A formal assessment of health literacy skills are required to offer occupational therapists a measure of their clients health literacy, which can guide their approach to teaching methods and materials they may opt to use with their clients. The occupational therapist's knowledge, skills, and theoretical foundation regarding assessments, guides their clinical reasoning through the health literacy assessment process to plan the client-centered occupational therapy interventions (AOTA, 2008). Several assessment tools will be reviewed throughout this section of the literature review, which may prove helpful for occupational therapists to perform during their assessment of the client.

The Rapid Estimate of Adult Literacy in Medicine (REALM) was developed in 1991, revised in 1993, and was designed for assessing health literacy in medical environments (Schwartzberg et al., 2005). The REALM requires clients to pronounce 66

health words and takes approximately 3 minutes to administer. Due to its high face validity and test-retest reliability, it is a widely selected assessment in the medical community (Schwartzberg et al., 2005). The REALM assesses the recognition of written health words and is publically available for a cost of approximately $65, including disposable score sheets. The revised REALM or REALM-R medical version requires only ten words to be read by the client, but is quicker to administer at less than 2 minutes and correlates with the REALM (0.72). The REALM is basically a literacy test and provides an outcome measure of a grade-level score; however, it does not include a measure that considers the individual's ability to understand the information and make informed appropriate decisions regarding their health (Schwartzberg et al., 2005).

The Test of Functional Health Literacy in Adults (TOFHLA; Baker, Parker, Williams, & Clark, 1998; Baker, Williams, Parker, Gazmararian, & Nurss, 1999) is an assessment often used in research studies, which includes reading comprehension and numeracy interpretation of materials individuals may encounter in health care settings (Schwartzberg et al., 2005). The TOFHLA is available in both full and shortened (S-TOFHLA) version and takes 18 to 22 minutes to administer the full version and 7 to 10 minutes for the short version. The TOFHLA was developed to test clients' "ability to read and understand things that they commonly encounter in a healthcare setting using actual materials like pill bottles and appointment slips" (Baker et al., 1998, p. 34). Evidence supports that the TOFHLA and S-TOFHLA are effective and reliable tools for identifying patients who have inadequate functional health literacy (Baker et al., 1998). The limitations of occupational therapists using the TOFHLA daily, includes the time it takes to administer and the fact that it does not reflect a comprehensive assessment of

health literacy. Since, like the REALM, the TOFHLA does not provide information on the ability of the client to process the information and use it to make appropriate health care decisions (McCormack et al., 2010; Nielsen-Bohlman, 2004).

The Newest Vital Sign (NVS) is a bilingual (English and Spanish) screening tool that is administered in a clinical setting in just three minutes by having clients answer six standard questions about an ice cream nutritional label (Hubbard, 2011). The NVS has been shown to address some of the limitations of other available health literacy assessment tools (Weiss et al. 2005). The NVS assesses general literacy and numeracy skills as applied to health information, and requires clients to make health-related decisions based on their understanding, yielding an overall estimate of health literacy. The NVS helps identify patients who are at risk for limited health literacy and those which have adequate health literacy skills. The NVS was developed by Pfizer, Inc. and has been researched by health literacy experts at the University of Arizona, College of Medicine, in collaboration with colleagues at the University of North Carolina (The Joint Commission, 2009). Weiss et al. (2005) described the validation process of the NVS compared to the TOFHLA. The screening tool is a reliable and accurate measure with high sensitivity for detecting limited health literacy and provides information about the patient that allows providers to more appropriately adapt their communication practices in an effort to achieve better health outcomes (Osburn et al., 2007; Weiss et al., 2005). The NVS is quick to administer and easy to interpret; patients are given an ice cream label and asked six questions about how they would interpret and act on the information contained on the label. The questions are asked orally and the responses recorded by a health care provider on a special score sheet, which contains the correct answers. Clients

receive one point for each of the six questions they answer correctly with a score of four or more indicating *adequate literacy.* A score of less than four points suggests marginal to inadequate health literacy, and that the health care professional may need to adjust their communication to accommodate a client's marginal or inadequate health literacy (Heinrich, 2012). The use of the NVS may be particularly appropriate for occupational therapists to use as a health literacy measure because it is quick to administer and interpret in the clinic, and the reading of nutritional labels is often a functional task related to *health promotion* that people use to make healthy eating decisions.

Health literacy universal precautions toolkit. The Agency for Healthcare Research and Quality (AHRQ) commissioned the Health Literacy Universal Precautions Toolkit in 2010 (HLUPT), for primary care practices to implement health-literacy related universal precautions (DeWalt et al., 2010). The HLUPT suggests that health care workers treat everyone as though they have difficulty accessing and understanding health care information or have limited health literacy (DeWalt et al., 2010). The universal precautions approach to health literacy may be beneficial in creating an environment where clients of all literacy levels can thrive without feelings of anxiety and shame (Osbourne, 2013). Development and validity testing of the HLUPT was designed to build upon existing health literacy resources, identify and fill gaps, and create guidance for implementing health literacy tools (DeWalt et al., 2011).

A consortium of a practice-based research networks developed the toolkit, which searched all existing available resources and identified more than 250 potential resource materials. The public domain toolkit is 227 pages, and is comprised of the final selected 20 tools divided into the four domains. The four domains include tools for verbal

communications, written communications, self-management and improvement, and improving the support system. The development team added an introductory domain, which included how to start individuals or organizations on a path to improvement of addressing clients with limited health literacy (DeWalt et al., 2011). It took two years to develop the toolkit and consisted of three major tasks for development, including the (a) development of the tools, using existing ones when possible; (b) testing the tools in clinical practice and assembling the prototype toolkit; and (c) testing the prototype in clinical practice (DeWalt et al., 2011). The testing of the toolkit revealed that the use of the HLUPT toolkit in clinical practice was promising as a means of improving the primary care for people with limited health literacy, and clinical practices "will use tools that are concise and actionable and are not perceived as being resource intensive" (DeWalt et al., 2011, p. 85). This HLUPT has provided a foundation for the defined objectives of the *evidence-based health literacy training program* including (a) introductory concepts, (b) verbal communications, (c) written communications, (d) self-management of health and wellness, and (e) the environmental impact of health literacy (Table 1).

Verbal communications. Occupational therapist professionals' ability to verbally communicate with their clients is a strategy for addressing limited health literacy that is offered in the universal precautions toolkit. This section of the literature review provides an overview of literature, which supports strategies that may be effective for occupational therapists to use in approach clients with limited health literacy.

Plain language. Plain language is a way of communicating with client so that they can easily understand the information being communicated (Plain Language

International, n.d.). Plain language means that people "find what they need, understand what they find, and use what they find to meet their goals" (Federal Plain Language Guidelines, 2011, para. 1). Occupational therapy professionals should consider literacy and all of its facets when developing health materials and selecting communication strategies to meet their clients' differing abilities, experiences, levels of knowledge, cultural beliefs and practices, and communication expectations (National Institute of Health, 2013). The Center for Plain Language offers several online language presentations, including an introduction to plain language, plain language regulations, suggestions for writing resources for the Web, financial and health communications, and many more helpful videos to assist with plain language and clear communications with our clients (Plain Language International, n.d.). Concepts of plain language communications will be included in the content of the *evidence-based health literacy training program*.

Teach-back method. The teach-back method is an interactive communication strategy in which the educator assesses the client's gaps in comprehension, recall, and understanding of the information taught (Schillinger et al., 2003). If there are gaps, the educator re-teaches the information until the client communicates an understanding of the information. The teach-back method requires clients to restate in their own words the information taught to them. The teach-back method slows down the learning process and allows for repetition of new information, allowing additional time for clients to learn the information (Negarandeh et al., 2012). The teach-back method is endorsed by the Institute for Healthcare Improvement, and is recommended as one of the top patient safety strategies by the National Quality Forum (National Quality Forum, 2009). The

Joint Commission (2009) recommended that clinicians use the teach-back method after explaining "a condition or diagnosis, medication choices, a proposed plan of care, or other information" (p. 26) to clients to assess whether they understand the information. The Joint Commission also recommended, having clients explain what they have learned in their own words, teaching it back to their health care provider. The *teach-back method* has been suggested to improve clinical outcomes (Bertakis, 1977; Flowers, 2006; Haines et al., 2006; Schillinger et al., 2003) and client satisfaction (Garcia, 2011; Tung & Chang, 2009).

Clinicians, who adopt a more client-centered communication style and confirm their clients' individual understanding and knowledge of the information taught, will improve the clients' understanding and compliance with prescribed self-care regimens and improved health outcomes (Weiss, 2007). The teach-back method is one technique occupational therapy professionals may use to assess and confirm whether patients truly understand the provider's spoken words (Osborne, 2013). The teach-back method will be included in the content of the *evidence-based health literacy training program*.

Written communications. There are many factors occupational therapy professions should consider when selecting, revising, or creating written health information to facilitate their clients' abilities to access, understand, and make decisions related to the written information. This section of the literature review offers factors to be considered by occupational therapy professionals when communicating with their clients using written materials. Readability formulas are frequently used to determine the level of difficulty of the vocabulary and sentences in written materials (McGee, 2010c). These formulas typically estimate the grade level based on the word and sentence count, or

lengths of the words and sentences. However, readability formulas pose limitations for ease of reading health terms and do not measure how well people understand written materials, which is a critical element for health literacy. (McGee, 2010c)

Toolkit for Making Written Material Clear and Effective. Jeanne McGee (2010a) wrote an eleven-part Toolkit entitled *Making Written Material Clear and Effective* for the Center of Medicare and Medicaid Services (CMS), which offers practical assistance to write clear and effective written materials. The toolkit offers practical strategies for people to write health-related materials for people who are eligible or enrolled in CMS health care programs, and provides detailed and comprehensive tools to help health care workers write printed format easier to read and understand (McGee, 2010a). Much of the health information produced by health care organizations is unusable because the audience cannot read or understand the information (The Joint Commission, 2009). The concern is that patients cannot understand important information, risks and dangers, and the critical parts of the health care provider's message (The Joint Commission, 2009). The design of written health information should include consideration to "content, writing style, format, and use of graphics" (The Joint Commission, 2009, p. 52). Several factors have been recommended by McGee (2010b) for health care providers to consider when beginning to design or when selecting written materials to give to their clients, which include the following:

1. Clearly establish the objectives for the material and gather all relevant content materials, to make the purpose and usefulness of the material obvious to the reader.

2. Utilize a plain language writing style, writing for fifth-grade level and use simple sentence structure and short paragraphs.

3. Obtain the clients' input on the written materials to include a client-centered diverse opinion; using advisory panels, focus groups, or informal interviews with patients may be beneficial.

4. Confirm all information is accurate and up to date.

5. On websites, break information down into smaller sections with new pages, links, hyperlinks, and use video and audio clips to clarify the message more easily.

McGee (2010b) also offers several technical requirements to be considered when selecting, developing, or revising written health information including the following:

1. Use 12-point serif type font and no more than two types of font when writing the document, keeping sentences simple and short.

2. Consider line spacing, the use of capitals and bolding, bullets, and include plenty of white space throughout the document.

3. Use queuing devices, and attend to margins with sensitivity to section headings and other navigational queues.

4. Use dark color text light backgrounds, avoid the use of high-gloss papers, use colors sparingly, and the use of long lists.

5. Group meaningful information, and confirm the information is up to date.

6. Select graphics that adequately represent the message because sometimes people only look at the graphics and do not read the text, and place graphics as close as possible to corresponding text.

7. Make the materials appealing at first glance, by avoiding cluttering backgrounds in graphics and keeping charts and graphs simple.

8. Use technical terms and acronyms sparingly. Strategies to write health care

information in a more clear and understandable manner will be provided to occupational therapy professionals during the *evidence-based health literacy training program.*

Self-management of health and wellness. Occupational therapy professionals advocate for the well-being of the clients they serve, and provide instruction to their clients on self-advocacy in an effort to empower them to seek and obtain resources for their health and wellness (AOTA, 2008). This section of the literature review supports the planned content of the *evidence-based health literacy training program*, which will prepare occupational therapy professionals to promote their clients' health, teach them to serve as self-advocates, and become engaged in their own health and wellness.

Health promotion. Health promotion is the process of "enabling people to increase control over, and to improve, their health" (WHO, 1986, para. 3; AOTA, 2008, p. 652; AOTA, 2013, p. 1). Limited health literacy, which requires clients to understand and make decisions about health information, is one potential barrier that can interfere with clients' abilities to control and improve their health or health promotion. A clear connection exists between clients' health literacy levels and the role of occupational therapy professionals in health promotion, as health promotion is an occupation-base primary prevention intervention for occupational therapy professionals (AOTA, 2013). The *evidence-based health literacy training program* explores intervention strategies occupational therapists should consider to address limited health literacy skills of their clients and foster *health promotion* by their clients.

Patient activation and patient engagement. Patient activation has been described as the clients' ability to manage their own health and health care through their belief, confidence, and knowledge to take action to improve health management (Hibbard et al.,

2004). Patient engagement has been defined as the actions that individuals take to prevent disease and obtain the greatest benefit from the information available to them regarding disease and prevention (Center for the Advancement of Health, 2008). Clinicians should encourage patient engagement in their care with consideration to the patient's capabilities for taking on a self-management role (Hibbard et al., 2005). Patient engagement can aid occupational therapy professionals in avoiding a ''one size fits all'' approach to patient education, if they consider their patients' level of knowledge and skill to self-manage their health. Occupational therapy professionals may then be able to better "target self-care education and support to individual patient needs and presumably be more effective in supporting patient's self-management" (Hibbard, et al., 2005, p. 1919). A connection exists between health literacy and patient activation, suggesting that clients with the lowest health literacy skills and lowest activation levels result in the highest risk for poor health outcomes (Seubert, 2009). Also, higher patient activation may help to compensate for lower health literacy skills, increasing clients' comprehension of health information (Seubert, 2009). The *evidence-based health literacy training program* includes concepts of patient engagement and activation, which will expose occupational therapy professionals to empowering clients and families to manage their health and make appropriate health decisions.

Ask Me 3. The Partnership for Clear Health Communications at the National Patient Safety Foundation introduced the Ask Me 3 campaign, to encourage patients to ask questions in their everyday health care interactions (Osborne, 2013). The Ask Me 3 campaign was designed to improve communications between patients and health care providers, and to encourage patients to become active members of their health care team

and to promote improved health outcomes (DeWalt et al., 2010). The campaign encourages patients to ask their health care providers three simple questions: (a) What is my main problem? (a) What do I need to do? and (c) Why is it important for me to do this? The Ask Me 3 campaign strategies will be taught during the *evidence-based health literacy training program*.

Environmental Impacts on Health Literacy

"Health literacy is not a characteristic of individuals alone but is, instead, an interaction between the skills that people have and the demands systems make" (Rudd, 2010, p. 5). Health literacy represents a constellation of skills necessary to effectively function in the health care environment, and is based on the interactions of individuals' health contexts including home, work, school, and the community (Nielsen-Bohlman et al., 2004). The environment and the context are aspects of the occupational therapy's practice domain, which "support engagement, participation, and health" (AOTA, 2008, p. 628). That being said, occupational therapy professionals must consider the transaction between the natural, built, and social environments and their client's health literacy skills; which may influence their understanding of health information and the decisions they make regarding their health. The *evidence-based health literacy training program* was designed to expose occupational therapy professionals' to the impact of the clients' natural and health care environment and contexts on their health literacy, and how they may intervene with an improved understanding and ability to adjust the environmental demands on the client.

The health care environment. Occupational therapy professionals often provide services in health care environments, which are rich with health related information and

can prove to be confusing to individuals with limited health literacy. Clients coming to health care environments for care are often expected to follow signage, follow oral instructions both on the phone and in person, and access web-related materials to fill out forms or access health information.

The natural environment. Occupational therapy clients live, work, attend school, and play in natural environments where they access health information and are required to make critical decisions to manage their health and wellness. Clients access health information in their natural environments from several sources including newspapers, magazines, television, radio, the Internet, and several other locations. Clients need to make daily health related decisions within their natural environment including what foods to eat, what activity level is appropriate, what household products to use, how to prevent injuries in their home, what medications to take, when to visit their health care provider, and what insurance coverage is most appropriate for them. Clients may require assistance from occupational therapist professionals to access appropriate information, and help them to understand and interpret the information to make appropriate health decisions within their environment.

Literature Review Summary

A review of literature has been presented to demonstrate the need for an *evidence-based health literacy training program* for occupational therapy professionals, the relevance to the occupational therapy profession, and to guide the planning process for development of the training program. Literature has been provided which suggests that clients' limited health literacy negatively impacts their health, wellness, and health care outcomes. Literature, which substantiated the need for occupational therapy professionals

to engage in health literacy education, based on the needs of their clients has been reviewed. Literature has also been reviewed, suggesting that occupational therapy professionals are uniquely positioned and ethically obligated to address health literacy in their practice based on the Occupational Therapy. And finally the reviewed literature identified a gap in available training for occupational therapy professionals, and suggested education topics that should be included in the training program designed to fill the gap.

In summary, the literature reviewed supports an urgent need for an *evidence-based health literacy training program*, specifically designed for occupational therapy professionals. Health literacy education is necessary to aide occupational therapy professionals in utilizing their unique practice framework and theories to better prepare them to more adequately address their clients' limited health literacy and related health outcomes. It is encouraging that the *ACOTE Standards and Interpretive Guidelines* (ACOTE, 2012b), effective in 2013, have been expanded to include health literacy in requirements for occupational therapy curriculums. These new standards regarding health literacy education will improve the understanding and application of health literacy for entry-level therapists. However, this requirement does not transcend to practicing occupational therapy professionals. The conclusion of this literature review is that an *evidence-based health literacy training program* specifically designed for occupational therapy professionals, is needed.

Methodology

The AOTA's Centennial Vision (AOTA, 2007) launched the initiative for occupational therapy to become a science-driven and evidence-based profession with the

strategic directive to link education, research, and practice. The *evidence-based health literacy training program* is a capstone project that is comprised of the development and implementation of a training program that is aligned with the AOTA's Centennial Vision. The training program content was developed based on an extensive search of available literature supporting the program planning and development needs. The capstone methodology described in the following sections, supports and substantiates the ongoing program development efforts including the (a) program implementation; and (b) program evaluation (Grossman & Bortone, 1986).

Program Implementation

The *evidence-based health literacy education program* was implemented as part of this capstone project. The training program was implemented after the planning and development of the program was complete. This section describes the methodology used for implementing the training program.

Participants and settings. The training program was presented on two separate occasions during February 2014, to a total of twenty licensed occupational therapy professionals during their lunch hour. The first training program was taught to nine occupational therapy professionals with varying years of experience delivering direct client care at an inpatient rehabilitation facility located in Hollywood, Florida. The second training program was offered to eleven occupational therapy faculty members who practice in an academic setting teaching entry-level therapists and also treat clients across the lifespan in Philadelphia, Pennsylvania. It was determined that prior consent to implement the training and to collect feedback from the participants would not be required since feedback is routinely collected at the conclusion of ongoing professional

education, and it was collected anonymously. The participants were informed that the information collected would be used to develop a program improvement plan and would not be disseminated. The participants for the training program events were recruited by the department directors at each location, with the use of written program announcements which included the program objectives, times, and locations (Appendix A and Appendix B). Characteristics of participants that attended the training programs were collected on the program evaluation feedback form and will be reported in the data analysis.

Project implementation procedure. The author of the training program is a licensed occupational therapist with thirty years of experience treating clients with a variety of psychosocial and physical disabilities, across the lifespan. The training program was taught on two occasions by the program author with a face-to-face interaction with participants and the use of a PowerPoint presentation (see Appendix C). The training program took approximately one hour, with additional time for questions and feedback collection; was comprised of clearly defined objectives (Table 2) and training content (Table 3). The training program included key elements drawn from a literature review comprised of health literacy evidence published in the last decade, with the exception of historical evidence. Evidence selected includes the theoretical foundation, and strategies for occupational therapy assessment and intervention (Table 3).

Table 2

Evidence-Based Health Literacy Training Program Objectives

Training Program Objectives: To increase participants understanding of:
• Health literacy concepts and evidence that suggest the impact of limited health literacy on client's outcomes. • Theoretical frameworks available to health care professional to approach health literacy. • The impact of limited health literacy on the client's engagement in their health & wellness management, and health promotion. • Health literacy assessment and intervention strategies, including available resources for healthcare practitioners to successfully impact their client's outcomes. • Health literacy concepts and evidence that suggest the impact of limited health literacy on client's outcomes.

Note. The training program objectives were determined during the program planning using a review of health literacy literature and evidence.

Table 3

Evidence-Based Health Literacy Training Program Agenda

Training Program Content Agenda: Review of:

- Theoretical Foundation of Health Literacy
  - Terminology
  - Review of health literacy epidemiology
  - Review of health literacy evidence and outcomes
  - Theoretical approach to health literacy
- Health Literacy Assessments
  - Rapid Estimate of Adult Literacy in Medicine (REALM)
  - The Health Literacy Skills Instrument (HLSI)
  - Test of Functional Health Literacy in Adults (TOFHLA)
  - Newest Vital Sign (NVS)
  - Health Literacy Universal Precautions Toolkit (HLUPT)
- Health Literacy Interventions
  - Verbal Communication
    - Plain Language
    - Clear Communication Strategies
    - The Teach-back Method
  - Written Communications
    - Readability Measures
      - Simplified Measurement of Gobbledygook (SMOG):
      - Suitability Assessment of Materials (SAM):
      - Frye Readability Factor
      - Computer-based Readability Formula
  - Health Promotion
    - Patient Activation
    - Patient Engagement
    - Ask Me 3 Program
  - The Environment
    - Impact of the Environment and Context
    - The Learning Environment
    - The Healthcare Environment
    - The Natural Environment

Note. The training program content was determined during the program planning using a review of health literacy literature and evidence.

Program Evaluation

Training program evaluations are commonly used is to gain information on how to improve future training programs, determine the effectiveness of the program, and identifying ways in which the program may be improved (Kirkpatrick & Kirkpatrick, 2006). An inventory design is commonly recommended for the program evaluation of health promotion programs, such as the health literacy training program (Timmreck, 1995). The inventory design typically collects feedback from participants using questionnaires, surveys, or other inventories (Timmreck, 1995). This section describes the methodology used for evaluating training program implementation.

The participant feedback form. The participant feedback form was designed by the author of the training program to evaluate the *evidence-based health literacy training program* was (Appendix D). The feedback form was developed based on the Kirkpatrick Model (Kirkpatrick & Kirkpatrick, 2006), and was designed to provide quick and immediate feedback from the participants regarding their reaction to the training program while the information was still fresh in their minds (Phillips, 2004). The development of the feedback form was guided by the following principles: (a) determine what needed to be measured; (b) quantify the reactions; (c) allow for written comments; (d) get 100% immediate response; (e) get honest responses; and (f) develop acceptable outcome standards (Kirkpatrick & Kirkpatrick, 2006). The guidelines suggested by Kirkpatrick and Kirkpatrick (2006) were used to develop the specific feedback form questions and content; solutions selected for use in the feedback form more specifically outlined in Table 4.

Table 4

Guidelines for developing an effective program evaluation feedback form

Guideline	Training Program Feedback Form Content
Determine what needs to be measured	• Reaction to course content and objectives as defined in the literature review
Quantify the reactions	• Scale including "very", "somewhat", and "not at all" was defined and used on the questionnaire
Encourage written comments	• Comment section provided for each question and at the end of the survey
Get 100% immediate response	• 100% of surveys collected at exit
Get honest responses	• Anonymous feedback promoted honest feedback
Develop acceptable outcome standards	• Acceptable outcome standards are defined at 80% as part of data analysis requirements

Note: This table includes a list of guidelines that can be used to develop an effective reaction questionnaire as defined by Kirkpatrick and Kirkpatrick (2006).

The feedback form was designed to specifically inform the author if the delivery of the information was clear, informative, and whether certain aspects of the program need to be modified or improved. This included the participants' opinions regarding new information learned and if they felt participating in the training program would change their practice and/or teaching patterns or attitudes when approaching their job responsibilities. The training feedback form (Appendix D) included a quantitative rating scale and open-ended comments. The rating scale was comprised of three levels (Table 5), and was used for participants to provide feedback regarding their prior knowledge level and practice patterns (section A); training program objectives (section B); program content (section C); and program format and timing (section D; Appendix D). The self-developed scale provided the author with quantifiable data, which was easy to understand

by a wide audience of participants and provided a meaningful measure of the strength of the association or patterns between related questions and comments.

Table 5

Rating Scale to Measure Prior Knowledge and Practice Patterns

Rating	Description
Not at all	Indicates no previous familiarity or use on concept(s) in practice; or used to answer the question "not at all"
Somewhat	Indicates some previous familiarity or use of concept(s) in practice; or used to answer the question "somewhat"
Very	Indicates high familiarity or use of concept(s) in practice; or used to answer the question "very"

Note. This rating scale was originally developed for purposes of this project based on the Kirkpatrick (2006) training program evaluation model.

At the conclusion of each of the two training programs, the training program author offered verbal instructions to the participants on the procedures to complete and submit the feedback form (Appendix D). Training program participants were given adequate time at the conclusion of the program to select their answer for each question and provide open-ended comments as they deemed necessary, and forms were collected anonymously in a collection box at the exit of the training program meeting room.

The Kirkpatrick model. The Kirkpatrick model is comprised of four levels of evaluation each designed with a different intent (Table 6). An evaluation at each level answers whether fundamental requirements of the training program were met. Conducting an evaluation at one level is not more important that another, all levels of evaluation are important, yet not required (Phillips, 2004). Each level provides a diagnostic checkpoint for problems at the succeeding level. Level one of the Kirkpatrick evaluation model is designed to measure the participants' reactions to the training

program or what they thought of the program (Phillips, 2004). Level two measures what the participants learned during the training program, measuring the extent to which their knowledge has been acquired (Phillips, 2004). Behavioral changes in participants are measured in level three, including the extent to which skills and knowledge have been incorporated into job performance; which usually require before and after training comparisons (Phillips, 2004). Evaluation of the results from level four require measurement of organization improvements such as return on investments, and quality changes (Phillips, 2004).

Table 6

The Kirkpatrick Model for Measuring Effectiveness of Training Programs

Level	Measures	Description of the Intent	Why Selected?
1	Reaction	To what extent did the participants find the training useful, challenging, well structured, organized, and so on?	Useful & Organized?
2	Learning	To what extent did participants improve knowledge and skills, and change attitudes as a result of the training?	Attitudes changed?
3	Behavior	To what extent did participants change their behavior as a result of the training?	Not measured
4	Results	What measurable organizational benefits resulted from the training in terms such as productivity, efficiency and sales revenue?	Not measured

Note: This table includes a list of the levels of the Kirkpatrick training program evaluation; this capstone project measured effectiveness using level one and two. Adapted from *Evaluating Training Programs* (3rd Ed.) (p. 146), by Kirkpatick & Kirkpatrick, 2006, San Francisco: Berrett-Koehler Publishers, Inc. Copyright 2006 by Donald L. Kirkpatrick and James D. Kirkpatrick.

For the purposes of evaluating this training program, it was determined that the first two levels of the model would be used to evaluate (a) the participants' reactions to

the training program; and (b) the extent to which their learning improved their knowledge and skills and/or changed their attitudes about health literacy. Participant feedback questionnaires are the appropriate methods to collect feedback at these two levels (Kirkpatrick & Kirkpatrick, 2006). Kirkpatrick's levels three and four were not utilized as part of the training program evaluation, since behavioral changes and benefits to the organizations where the participants work are long term benefits which cannot be measured during the scope of this project.

Evaluating the participants' reactions to the training program. Evaluating how the participants' react to training programs actually measures customer satisfaction with the training program (Kirkpatrick & Kirkpatrick, 2006). Several questions were included on the evaluation feedback form to determine the participants' reactions to the training program or what they thought of the program. The questionnaire included questions, which inquired (a) if the objectives were met; (b) if key messages were clearly conveyed; (c) if the training was concise; (d) if they would recommend the training; and (e) if the format and time allowed for the program was adequate (Table 7).

Evaluating the participants' learning and/or attitude changes following the program. Learning can be defined as the extent to which participants change attitudes, improve knowledge, and/or increase skill as a result of attending the program (Kirkpatrick & Kirkpatrick, 2006). One or more of these changes must take place if a change in behavior is to occur as a result of the learning (Kirkpatrick & Kirkpatrick, 2006). Several questions were included on the evaluation feedback form to determine (a) the participants' reactions to the *evidence-based health literacy training program*; (b) if

they felt the training persuaded them to change practice or take action; and (b) if the training met their learning needs (Table 7).

Table 7

The Questions on the Evaluation Feedback Form based on the Kirkpatrick Model

Level	Measures	Question Number on Form	Questions From Feedback Form
1	Reaction	7	Were the objectives addressed by program content?
		9	Did training clearly convey relationship of health literacy to the PEOP theory?
		12 & 13	Was the education content clear and concise?
		14	Would you recommend this education be a requirement for OT or other health care professionals?
		15	Was the format of the education conducive for learning?
		16	Was the on-hour time planned adequate
2	Learning	8	Did the evidence persuade you that action must be taken by OT or other allied health professionals to reduce the impact of limited health literacy on our clients?
		10	Did the evidence persuade you to incorporate health literacy intervention strategies into your job responsibilities?
		11	Did the education content meet your learning needs as and OT or other allied health professional?

Note: This table includes a list of the questions that the program developer included on the program evaluation feedback form based on the levels of Kirkpatrick training program evaluation model.

Evaluating open-ended comments from the training program. Open-ended comments were voluntary, with space provided on the feedback form for each question and at the bottom of the feedback form. The open-ended comments were used to define opportunities to enhance the program as part of the program improvement plan.

Data Analysis

The purpose of the data analysis was to evaluate the training program, formulate conclusions regarding program effectiveness based on the participants' feedback, and to determine enhancements that would be included in the training program improvement plan. Descriptive statistics (frequency and percentage) were calculated and summarized in a meaningful way based on the participants' feedback. The descriptive statistics include the percentage of responses related to participants' (a) reaction to the training program; (b) changes in learning attitudes as a result of the training program; and (c) open ended comments. In relation to determining program effectiveness, it was determined that if 80% (or more) of the participants' responses were favorable (i.e., indicated "very" on the feedback form) on any specific question, then action would not be indicated for the program improvement plan. Conversely, if less than 80% of the participants indicated that the training program was favorable (i.e., indicated "somewhat" or " not at all" on the feedback form), then action would be indicated for the improvement plan.

The open-ended comments documented by the participants on the feedback forms were analyzed using the categories as described in Table 8. If the training program participants provided comments, the training program author reviewed them to determine if the feedback was considered favorable, neutral, or unfavorable (Table 8). Comments classified as unfavorable would be addressed in the program improvement plan, and any suggestions from favorable and neutral comments would be considered for the program improvement plan.

Table 8

Categories for Open-Ended Comments

Category	Description
Favorable	Positive feedback "only" received, without suggestion(s) for improvement
Neutral	Positive feedback received, with suggestion(s) for improvement
Unfavorable	Negative feedback received, with or without suggestion(s) for improvement

Note. The categories were originally developed for purposes of this project.

Program Evaluation Results

A total of twenty licensed occupational therapy professionals participated in the two training pilot program presentations. Sixty percent (N = 12) of the participants were practicing occupational therapy professionals providing direct patient care on a regular basis, while forty percent (N = 8) were occupational therapy faculty members (Figure 4). The mean years of experience for all participants was 21.24 years ranging between 3.8 years and 37 years; with thirteen of the twenty participants having twenty or more years of experience (Figure 5).

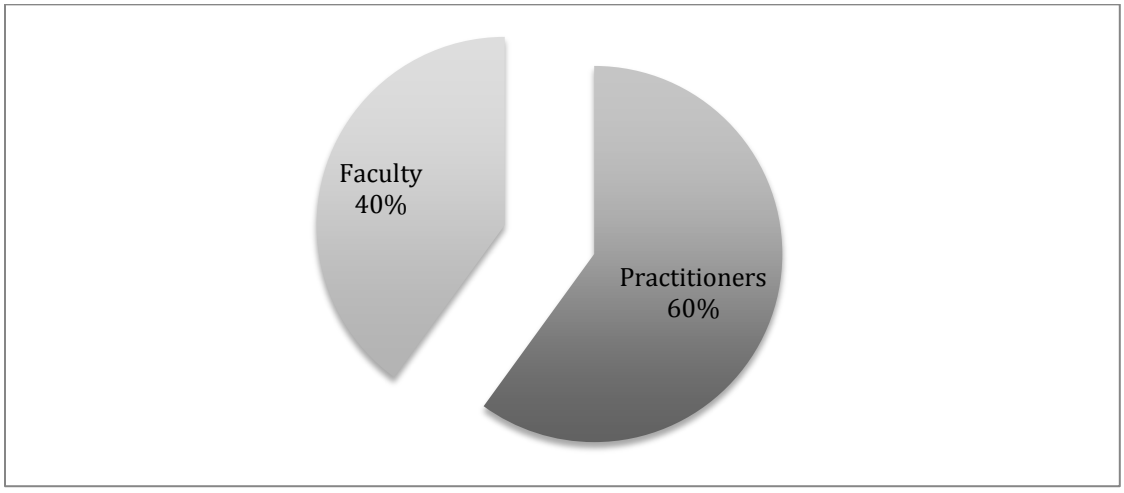

Figure 4. Distribution of all participants' (N=20) primary practice setting.

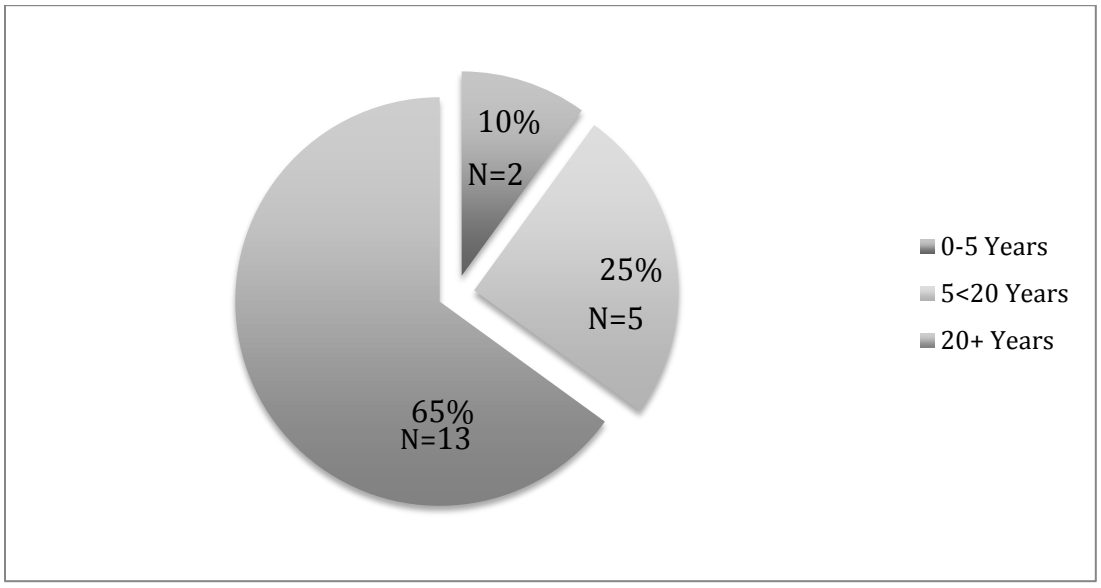

Figure 5: Years of experience for each of the participants (N=20) in pilot health evidence-based literacy training programs.

Participants' level of knowledge prior to training. The twenty participants' reported their understanding of six health literacy concepts and practices prior to attending the training program, offering a total of 120 responses (Figure 6). Twenty-six (18%) of the total 120 responses reflected that the participants were "very" familiar with the evidence-based health literacy concepts prior to participating in the training program. Suggesting there was an initial overall opportunity to improve the participants understanding of health literacy concepts in 82% of the total responses, which were either "not at all" or "somewhat" familiar with the concepts.

A majority of the participants responded that prior to the training they were "not at all" familiar with concepts including "ask me 3", the "Newest Vital Sign", and the "teach back method" (75%, 80%, and 60% respectively). Health literacy "concepts" and "universal precautions" were somewhat familiar to the participants (70%, and 60% respectively). Thirty-five percent of the participants were "not at all" familiar with the

health literacy concepts of “readability”, with another 30% “somewhat” familiar. The findings regarding participants’ knowledge and practices prior to attending the training program support that participants were either “not at all” familiar or “somewhat” familiar with the health literacy assessment and intervention concepts including the “Newest Vital Sign”, “ask me 3”, the “teach-back method”, and “universal precautions”.

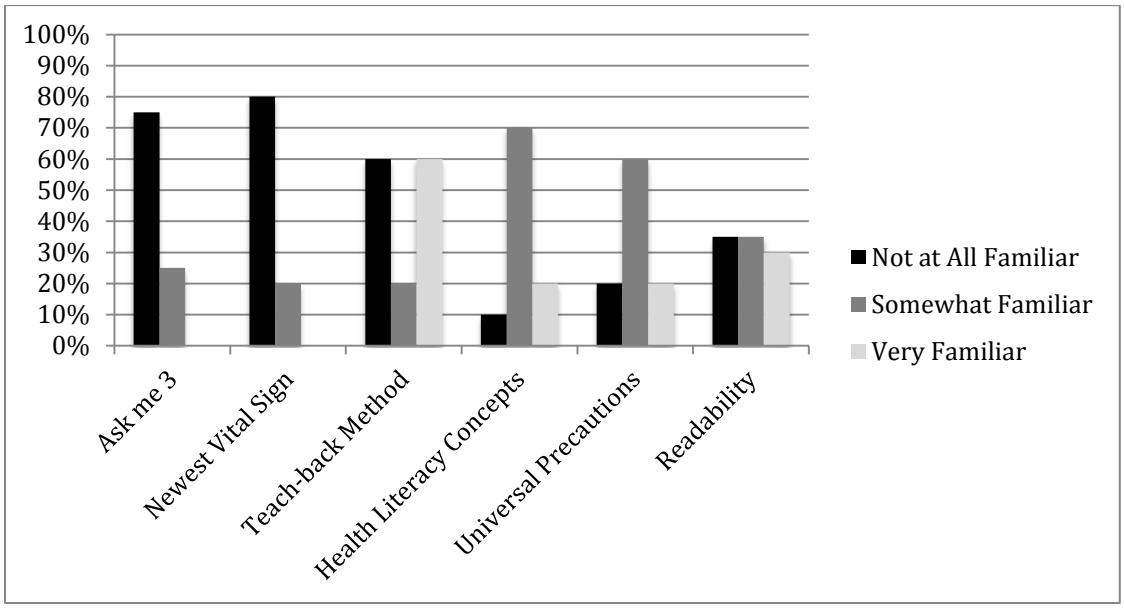

Figure 6: All participants’ prior level of knowledge of evidence-based concepts related to health literacy.

A comparison of the participants’ prior level of knowledge was conducted between the seven participants with less than twenty years (Figure 7) of experience and the thirteen participants with more than twenty years of experience. This comparison was relevant to the analysis to determine if participants’ prior knowledge of health literacy concepts correlated with overall practice experience. The therapists with less experience responded that they were more familiar with health literacy concepts and the teach-back method, which may suggest that practicing therapists with more experience are less

familiar with health literacy concepts, and would particularly benefit from the health literacy training program.

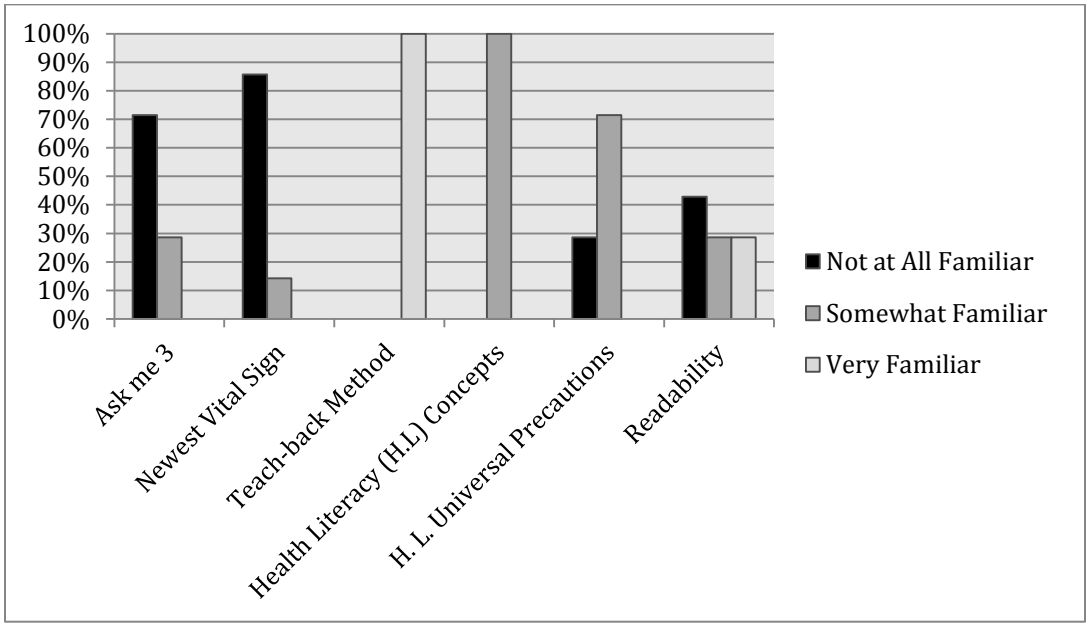

Figure 7: Participants with less than twenty years (N=7) of experience prior level of knowledge of evidence-based concepts related to health literacy.

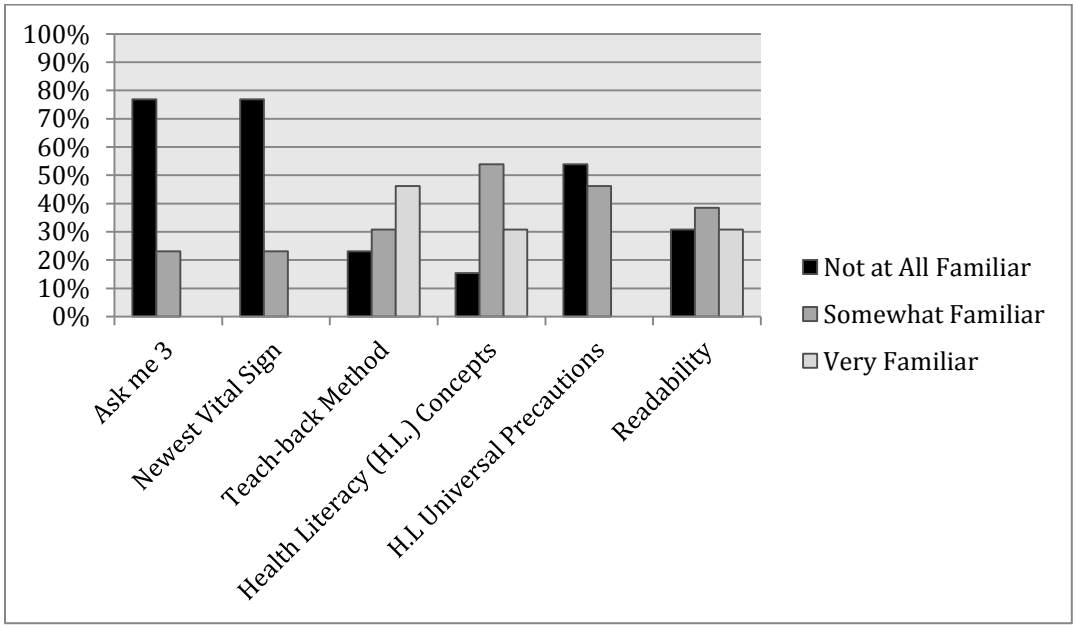

Figure 8: Participants with twenty or more years of experience (N=13)prior level of knowledge of evidence-based concepts related to health literacy.

Program effectiveness. The training program was evaluated for effectiveness to determine modifications that would be included in the training program improvement plan. Program effectiveness and potential improvements to the program were determined based on the participants' reactions to the training program (level one) and changes in the participants' learning attitudes (level two), which were evaluated by questions on the feedback form.

Participants' reactions to the training program. Participants' reactions to the training program must be measured for a level one evaluation on the Kirkpatrick program evaluation model. Participants' reactions to the health literacy training program were analyzed by measuring (a) if the learning objectives were met; (b) if the relationship to the PEOP model was conveyed; (c) if the content was clear and concise; and (d) if the participant would recommend that the training program be required for occupational therapy professionals. Seven questions were developed for use on the program evaluation feedback form which corresponded to the Kirkpatrick level one-evaluation measures, which assessed the participants' reactions to the training program (Figure 9).

All of the participants (100%) responded that the training program content was "very" clear, and it was recommended by all participants that the training program be required for "occupational therapy or other healthcare professionals". Ninety percent of the participants responded that the content was "very" concise and the format of the training program was "very" conducive to learning. Ninety five percent of the participants responded that the training program "very" clearly conveyed the relationship of health literacy to the PEOP model. The findings from all of these six questions met or exceeded a 90% favorable response, suggesting that no improvements or enhancements

are indicated for this content. As per the feedback from participants, there was an overwhelming positive response to the *evidence-based health literacy training program*.

Sixty-five percent of the participants felt the time planned for the training program was adequate. Since this feedback was below the 80% benchmark, action would need to be included in the program improvement plan. The program author needed to determine what additional time allocated to the training program would include, which was determined based on additional analysis of the program evaluation findings.

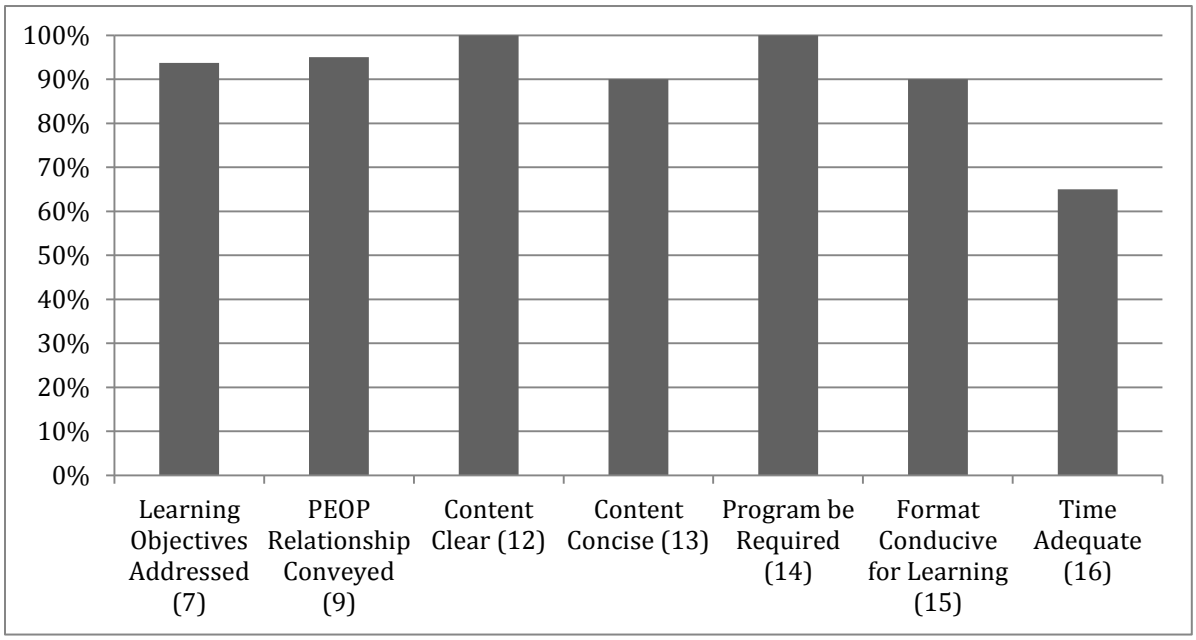

Figure 9: Represents all participants' (N=20) reactions to the training program. Indicates questions in which the participants indicated a response of "very". With the corresponding question number from the feedback evaluation form indicated in the parenthesis.

The *evidence-based health literacy training program* had four established learning objectives, and participants were asked on the feedback form whether the training objectives were addressed or not. Ninety-four percent of the overall eighty potential responses indicated that the learning objectives were addressed during the

training program (Figure 10). Ninety percent or more of the participants responded that the training program met each of the established learning objectives. This feedback exceeded the established 80% benchmark and suggested that the improvement plan would not require any changes to the training program's established objectives.

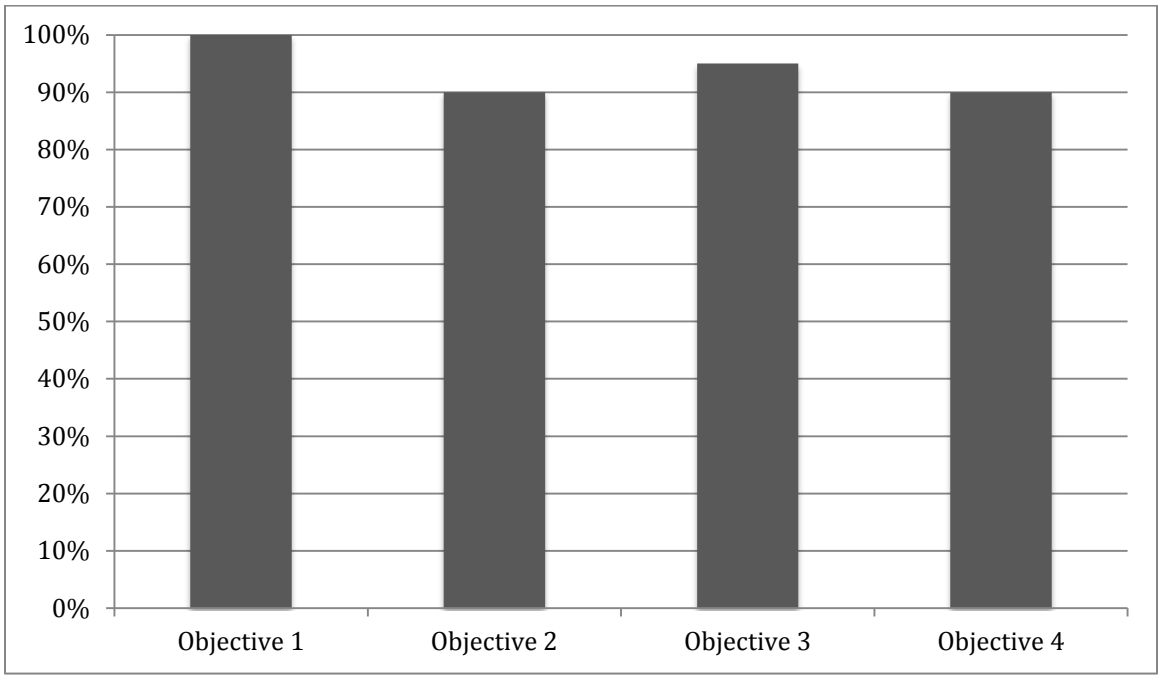

Figure 10: Represents all participants' (N=20) responses if the program objectives were met, indicated by a response of "very" on the feedback form.

Changes in the participants' learning attitudes. Changes in learning attitudes were analyzed by measuring (a) if the participants learning needs were met; (b) if the evidence persuaded them to professionally act; and (c) if the evidence persuaded them to incorporate health literacy intervention strategies into their practice moving forward. Three questions on the program evaluation feedback form corresponded to the level two evaluation measures defined by the Kirkpatrick model, or the participants' learning and/or attitude changes in response to the training program (Figure 11). All of the participants responded that they felt their learning needs were met, and 95% of

participants were persuaded by the evidence that action must be taken by occupational therapy and other health care professionals to reduce the impact of limited health literacy on clients. Ninety-five percent of participants responded that the evidence presented during the training program persuaded them to incorporate health literacy interventions strategies into their practice, which is above the 80% benchmark that would suggest changes to the program are required.

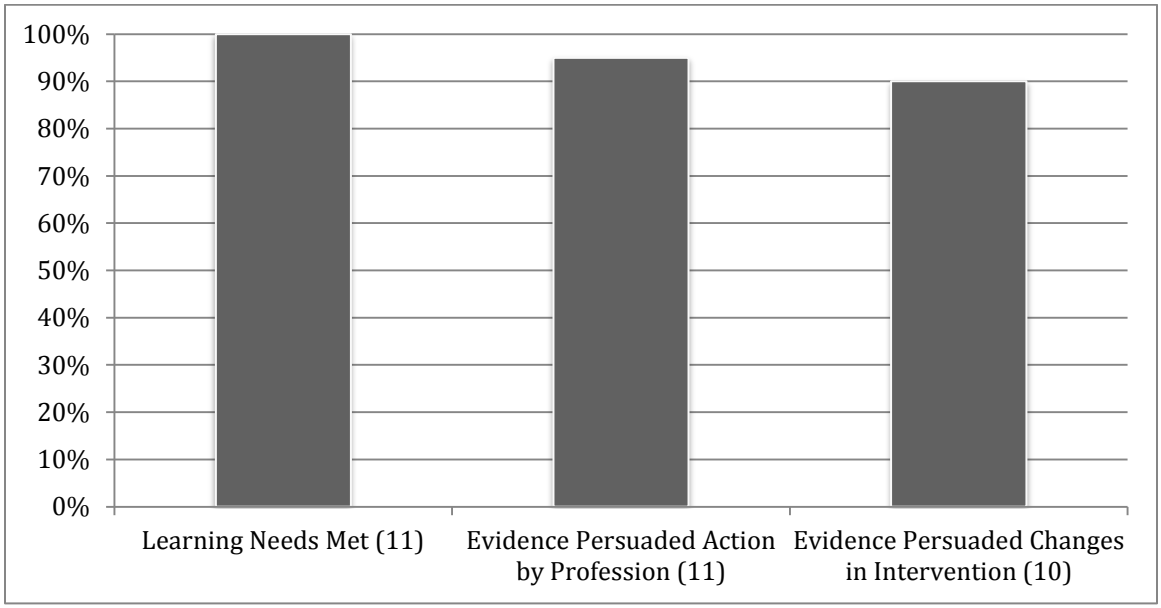

Figure 11: Represents all participants' (N=20) learning and/or attitude changes indicated as "very" on the evaluation from participating in the training program and corresponding question number on the feedback evaluation form.

Open-ended comments from the training program. A total of twenty-four open-ended comments were collected from the program evaluation feedback forms; seventeen were considered favorable (F), four were unfavorable (UF), and three were neutral (N) (Table 8). All four of the unfavorable comments confirm the need for more time allocated to the training program, which will be integrated into the program improvement plan.

Table 9

Open Ended Comments from Feedback Forms

Q#	Comment	Category Type
2	Great ideas, would like to use it in my practice with patients	F
2	Great, especially free assessment tools	F
1	Very interesting and relevant methods	F
4	Well known important methods	F
7	All were very clearly and well discussed	F
16	Could use more time for discussion	UF
16	Information came rapid fire, would be helpful to talk slower and pause a long the way	UF
7	Very clearly presented	F
9	Nice Use of PEOP model	F
12	Very Clear and concise	F
13	Very Clear and concise	F
Add	Nice clear PowerPoint	F
Add	Knowledgeable presenter	F
4	I use this techniques during informed consent in research activities	N
7c	Would like to know more about impact of health literacy on access	N
10	Additional knowledge encouraged me to more clearly emphasize	F
15	I liked the opportunity for discussion offered during the training	F
Add	Excellent and I will go to work this afternoon to integrate into my courses	F
Add	Cheryl is certainly an expert in this area	F
1	But not really known as “health literacy” in these exact words	N
16	Longer would be better with more beneficial with practical practice, but understand limited time due to facility not the presenter	UF
Add	Would love further teaching for the entire staff in a 2 hour workshop	F
Add	This was a wonderful presentation! Loved learning about the specific strategies to improve health literacy	F
16	Needs more time	UF
Key: F=Favorable N=Neutral UF=Unfavorable		

Note. These comments are direct quotes from the program evaluation feedback forms; Q# indicates the correlating question number from the feedback form, with “Add” indicating comments transcribed from the additional comments section at the bottom of the program evaluation feedback form.

Conclusion

Limitations

According to Kirkpatrick and Kirkpatrick (2006), evaluation of a training program may include up to four steps which considers (a) the participant's reaction to the learning; (b) the participant's overall learning; (c) the participant's changes in behavior as a result of the training; and (d) the measurable results that occurred as a result of the changes (i.e., return on investment). This project, however, was limited to an evaluation of only the first two steps due to time constraints. Future evaluation of the training program may be beneficial to determine the impact of the training on participants' long-term practice behaviors and impact to their clients' outcomes or experience. Each of the four levels of the program evaluation are beneficial, however not all are required, in determining the effectiveness of the training program and potential future training program enhancements (Kirkpatrick & Kirkpatrick, 2006)

The sample size of participants in the pilot health literacy-training program included twenty occupational therapy professionals from two locations including an inpatient adult rehabilitation hospital and an academic setting. The responses from the twenty participants were fairly consistent, suggesting the feedback was adequate in determining what changes to the training program would be beneficial. The generalizability of the results to a more diverse population of professionals may be limited due to the small sample size and limited practice settings represented by the training program participants. Additional pilot trainings may be beneficial to a more diverse audience of occupational therapy professionals, in a wider variety of treatment

environments including home health, pediatrics, the school system, or mental health settings.

Questionnaires used in an inventory design can be a simple and logical process to collect feedback, yet it also tends to be the least reliable method of collecting data for program evaluation (Phillips, 2004). Questionnaires offer quick reactions from participants and are easy to administer; however, the data are subjective, participants are often too polite, and a positive rating may not offer an assurance that the participants would implement the new information they have learned into practice (Phillips, 2004). The questionnaire developed for this project was designed by the author of this paper based on the Kirkpatrick model for program evaluation, since one did not exist that met the intent of this project; however, it was not validated prior to its use. Therefore, conclusions may be limited based on the fact that content validity and construct validity had not been established, which may limit whether the questions measured what they were intended to measure. Also, the findings from the program evaluation may have been further limited since the questionnaire did not include a question regarding additional topics they would recommend be included in future versions of the training program. However, the "additional comments or additional suggestions" section at the bottom of the feedback form (Addendum D) was included to attempt to provide adequate opportunity for participants to include additional recommendations.

Program Improvement Plan

A program improvement plan has been developed based on the data analysis and feedback from training program participants. This section provides a summary of the

program evaluation findings and recommendations for improvements to the *evidence-based health literacy training program.*

Overall feedback. The training program feedback collected and the subsequent analysis has provided data that can be used as an initial step toward the enhancement of the *evidence-based health literacy training program*, and prepare the training materials for future publication. Once published, this health literacy training program can be made available to a broader range of occupational therapy professionals and fill the void for education not currently available in occupational therapy. Based on the lack of training programs available to other allied health professionals (e.g., physical and speech therapy), and the favorable comments made during this health literacy training program pilot presentations, this program may also prove beneficial for use by other allied health professionals. All participants responded that this training program should be an education requirement for practicing occupational therapist, which the training program author will consider when developing the publication plan.

Time allocation. The most common feedback provided from the participants was to increase the time allowed for the training program, which was suggested by numerous participants. Open-ended comments written on the feedback form included recommendations to expand the one-hour training program to a two-hour workshop, and to include time to practice techniques taught during the training program. By expanding the training program to two hours, participants will be given the opportunity to practice the assessment and intervention techniques taught during the training program

Content. Findings from the literature review and the analysis of the program evaluation support that all of the concepts included in the training program should

remain. Since sixty-five percent of the participants responded that they were “very” or “somewhat” familiar with the concepts of readability, consideration could be given by the author to reduce the content related to readability and expand the assessment and intervention content, if additional time is needed.

Techniques that can be practiced during the expanded training time will include the “Newest Vital Sign” assessment, the “teach-back method”, “ask me 3” concepts, and “health literacy universal precautions” (Table 10); which were also the areas that the participants were least familiar with prior to the training program (Figure 6). A session to practice administering, scoring, and interpreting the Newest Vital Sign assessment would be added to the agenda. Role-playing sessions would be added to aide therapists in becoming more proficient with “ask me 3” and the ”teach-back method”. Concepts and content related to readability will not be adjusted, even though some participants suggested they were more familiar with this content than the other elements, since expanding the allotted time should continue to accommodate this content.

Table 10

Evidence-Based Health Literacy Training Program Improvements

Training Program Content Agenda: Review of:

• Theoretical Foundation of Health Literacy
• Health Literacy Assessments
  ○ ***Addition of 15 minute “Newest Vital Sign” practice lab***
  ○ ***Addition of 15 minute “Universal Precautions” practice lab***
• Health Literacy Interventions
  ○ ***Addition of 15 minute “Teach-back Method” practice lab***
  ○ ***Addition of 15 minute “Ask Me 3” practice lab***

Note. The training program content changes were determined during the training program evaluation.

Summary

The purpose of this capstone project was to develop and pilot an *evidence-based health literacy training program* for occupational therapy professionals, aimed at better preparing occupational therapy professionals to identify and address clients' potential limited health literacy while providing occupational therapy services. The capstone objectives included (a) a review of relevant literature; (b) the development of the training program; (c) the delivery of two pilot presentations of the training program; (d) the collection of feedback from the participants; (e) a program evaluation of the feedback; and (f) the development of a program improvement plan based on an analysis of the program evaluation data for future enhancements to the training.

The overall mean years of experience of the participants of this training program was 21.24 years, yet their prior level of knowledge regarding health literacy concepts was clearly limited. This fact, combined with the fact that 100% of the participant's recommended that the training program be required education, supports that the participants were in need of additional education and the importance of occupational therapy professionals to engage in this training program. Learning has taken place when one or more of the following occurs (a) attitudes are changed; (b) knowledge is increased; or (c) skill is improved (Kirkpatrick & Kirkpatrick, 2006). A positive reaction to learning indicates that participants are more motivated to learn and a negative reaction may reduce the possibility of learning (Kirkpatrick & Kirkpatrick, 2006). The program evaluation of the training program reflected an overwhelmingly positive reaction to the training program by course participants. The program evaluation also suggested that the participants' attitudes towards the subject at hand had changed and their knowledge was

in fact increased regarding health literacy in response to their participation in the training program, supporting that learning had taken place. Ninety percent of the training program participants responded that they were persuaded to incorporate health literacy strategies into their practice, suggesting that this training program could impact their delivery of client care. Ninety-five percent of the participants responded that action should be taken by the occupational therapy professionals to reduce the impacts of health literacy on their clients, and 100% felt that this training program should be a requirement for occupational therapy or other health care professionals. These responses may suggest that if occupational therapy professionals are required to participate in an *evidence-based health literacy training program* it would impact their practice, and the occupational therapy services they provide to their clients. Additional opportunities exist in the future to assess the impact of this training program on levels three and four of the Kirkpatrick program evaluation model (see Table 6). These additional levels of program evaluation would include an assessment of the participants' behavioral or practice changes as a result of the training program, or what measurable organizational benefits resulted from the training program such as productivity, efficiency and revenue (Kirkpatrick & Kirkpatrick, 2006).

The role of the occupational therapy professional is not about improving health literacy skills; it is about better understanding health literacy so they can make changes in the face of clients' existing skills. (Rudd, 2009). Occupational therapy professionals must balance the transactions between their clients' health literacy occupations, and their individual health literacy skills within their environment to better understand and adjust the demands on the patient. They can further serve as health advocates to facilitate their clients' role in health promotion and wellness, if their clients can better access,

understand, and process basic health promotion to make appropriate health care decisions.

Occupational therapists are trained uniquely as healthcare professionals to consider the complex transaction between the person they treat, their environment, occupations, and desired performance. This transaction is uniquely described through the occupational therapy PEOP model. Their clients' ability to obtain, process, and understand basic health information and to make appropriate health decisions (health literacy) is a complex individual skill which can limit the client's overall health and wellness or health promotion, and place them at greater risk for poor health. Training for occupational therapists regarding health literacy and it implications to their clients does not currently exist. Thus, training is needed to adequately prepare the occupational therapist to consider the challenges of health literacy and promote optimal health and wellness for their clients. This capstone project has helped to fill the gap of available health literacy training for occupational therapy professionals. The training has been developed based on evidence, piloted, and evaluated. And finally, after some minor program improvements will be prepared for publication to make it available to practicing occupational therapists and prepare them to better serve their clients.

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Appendix A

Training Program Announcement: Hollywood, Florida

Health Literacy Education:
For Healthcare Professionals

Date: Friday, Feb. 21 Time: 12 – 1pm
Location: MHS Auditorium
Instructor: Cheryl Miller, OTR/L

Education Learning Objectives:

Participants will demonstrate an increase understanding of:

- Health literacy epidemiology, evidence, and national initiatives designed to address limited health literacy proficiency.
- The impact of limited health literacy on the provision of effective client and caregiver education intervention in all settings and across the lifespan.
- Assessment, Intervention strategies, evidence, and available resources for healthcare practitioners needed to successfully impact client outcomes and satisfaction.

Health Literacy is "the degree to which individuals have the capacity to obtain, process, and understand basic health information and services needed to make appropriate health decisions" (Ratzan and Parker, 2000, p. vi) Adopted by: *Healthy People 2020, American Medical Association, Institute of Medicine, Agency for Healthcare, Research, & Quality, & American Occupational Therapy Association (ACOTE)*

Consent: This education has been developed as part of a doctorate capstone project at Nova Southeastern University. Participation in this education is voluntary. At the conclusion of the education participants will be asked to complete a brief written anonymous feedback form designed to identify potential future improvements to the education. Completing the feedback form serves as consent to use your anonymous feedback in the improvement plan for this education. Thank you

For more information contact: cheryl.miller@healthsouth.com

Appendix B

Training Program Announcement: Philadelphia, PA

The Issue Is: Health Literacy

Date: Wednesday, February 26, 2014
Time: 12 noon – 1:30 pm
Location: Dean's Conference Room
6th Floor, 901 Walnut St. Building
Speaker: Cheryl Miller, OTR/L

Health Literacy is "the degree to which individuals have the capacity to obtain, process, and understand basic health information and services needed to make appropriate health decisions" (Ratzan and Parker, 2000, p. vi).

Adopted by: *Healthy People 2020, American Medical Association, Institute of Medicine, Agency for Healthcare, Research, & Quality, & American Occupational Therapy Association (ACOTE)*

Learning Objectives:

After participating in this session, learners will be able to:

- Discuss health literacy concepts and evidence for the impact of limited health literacy on client's outcomes.
- Use theoretical frameworks available to health care professionals to better understand the many factors contributing to health literacy.
- Analyze the impact of limited health literacy on the client's engagement in their health & wellness management, and health promotion.
- Discuss health literacy assessment and intervention strategies, including key resources for healthcare practitioners to successfully impact their client's outcomes.

Consent: This education program has been developed as part of a doctoral capstone project at Nova Southeastern University. Participation in this education is voluntary. At the conclusion of the education participants will be asked to complete a brief written anonymous feedback form designed to identify potential future improvements to the education. Completing the feedback form serves as consent to use your anonymous feedback in the improvement plan for this education. Thank you

For more information contact: cheryl.miller@healthsouth.com

Appendix C

Evidence-Based Health Literacy Training Program Presentation (p. 1)

An Evidence-Based Heath Literacy Education Program

Cheryl Miller, OTR/L, DrOT Student
Nova Southeastern University

Learning Objectives

- Participants will demonstrate an increase understanding of:
- Health literacy **concepts and evidence** that suggest the impact of limited health literacy on client's outcomes.
- **Theoretical frameworks** available to health care professional to approach health literacy.
- The **impact of limited health literacy** on the client's engagement in their health & wellness management, and health promotion.
- Health literacy **assessment and intervention strategies**, including available resources for healthcare practitioners to successfully impact their client's outcomes.

Health Literacy Video

(American Medical Association, 2011, Retrieved from http://www.youtube.com/watch?v=BgTuD7l7LG8)

Health Literacy Agenda

Concepts	Assessment'	Interven+ons'
1. Terminology 2. History 3. Evidence 4. Impact 5. Theory	1. Newest Vital Sign 2. Universal Precautions Toolkit	1. Verbal Communication 2. Written Communications 3. Health Promotion 4. Environment

HEALTH LITERACY CONCEPTS

The Right to Understand

- Patients have the <u>right to understand</u> healthcare information that is necessary for them to safely care for themselves, and to choose among available alternatives.
- Healthcare <u>providers have a duty</u> to provide information in simple, clear, and plain language and to check that patients have understood the information before ending the conversation.

(The White House Conference on Aging , 2005)

Appendix C

Evidence-Based Health Literacy Training Program Presentation (p. 2)

The Challenge to Understand

- Patients **member and understand less than half** of what clinicians explain to them. (Ley, 1988) & (Rost, & Roter, 1987)
- 40-80% of medical information taught to patients **is forgotten immediately.** (Kessels, 2003)
- Half of the retained information **is recalled incorrectly**. (Anderson, Dodman, Kopelman,& Fleming, 1979)

Health Literacy

- "The degree to which individuals have the capacity to **obtain, process, and understand** basic health information and services needed to make appropriate health decisions" (Selden, Zorn, Ratzan, & Parker, 2000, p. vi) Adopted by:
  - Healthy People 2020
  - American Medical Association
  - Institute of Medicine
  - Agency for Healthcare, Research, & Quality
  - American Occupational Therapy Association (ACOTE)

Limited Health Literacy

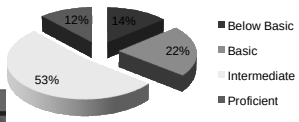
- The limited ability to obtain, process, and understand health-related information; and often translates to poor health outcomes, less healthy behaviors, poorer health status, and increase healthcare costs

(Weiss, 2007)

Historical View of Health Literacy

- Field of health literacy began in the early 1990's
- 1991 – Congress passed the *National Literacy Act of 1991*
- **1992 – *National Adult Literacy Survey* (NALS)**
- 2000 – *Health People 2010*
- 2003 – *Adult Literacy & Lifeskills Survey* (ALL) (international)
- **2003 – *National Assessment of Adult Literacy* (NAAL)**
- 2004 – AMA published the *Prescription to End Confusion*
- 2004 – AHRQ published the *Literacy & Health Outcomes Report*
- **2010 – US Department of Health & Human Services released the *National Action Plan to Improve Health Literacy***
- 2010 – *Health People 2020*
- 2012 – the Institute of Medicine published the Ten *Attributes of Health Literate Organizations*
- 2013 – World Health Organization published *Health Literacy: The Solid Facts*

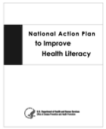
Epidemiology in 2003



•36% or 93 million of US adults have limited health literacy, including:
- 59% - adults over the age of 65
- 76% - less than high school graduate
- 58% - blacks
- 66% - Hispanics

Cited from the National Assessment of Adult Literacy (Kutner et al., 2006) as cited in (Weiss, 2007)

National Action Plan to Improve Health Literacy



- Envisions a society which:
  - Provides everyone with access to accurate and actionable health information
  - Delivers person-centered health information and services
  - Supports lifelong learning and skills to promote good health
- Includes 7 goals for professionals and organizations to improve health literacy & promote change in health care
- Serves as a call for action to engage all people in an effort to create a more health literate society

(US Department of Health & Human Services, 2010)

Appendix C

Evidence-Based Health Literacy Training Program Presentation (p. 3)

10 Attributes of Health Literate Organizations

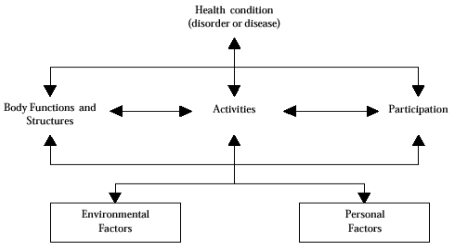
1. Makes health literacy integral to its mission & operations
2. Integrates health literacy into quality planning
3. Prepares the workforce to be health literate and monitors progress
4. Includes populations served evaluation of health information
5. Meets needs of populations with a range of health literacy skills
6. Uses health literacy strategies in interpersonal communications and confirms understanding at all points of contact
7. Provides easy access to health information and services
8. Designs and distributes print, audiovisual, and social media content that is easy to understand and act on
9. Addresses health literacy in high-risk situations
10. Communicates clearly what health plans co ver

(Brach et al., 2012)

HEALTH LITERACY for Occupational Therapy

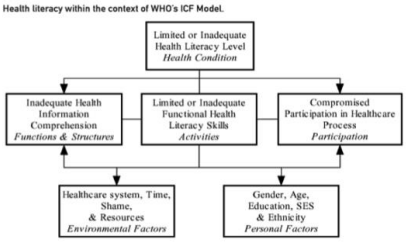
THEORETICAL FRAMEWORKS

International Classification of Function



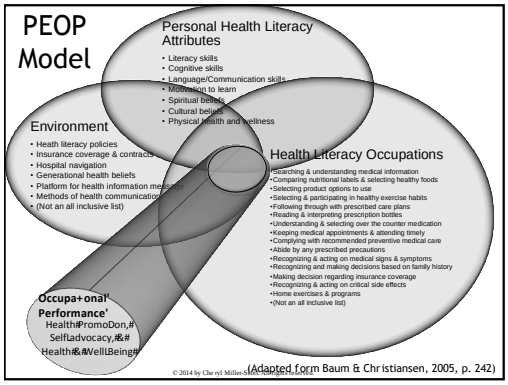
(World Health Organization, 2001)

World Health Organization Health Literacy within the ICF



(As reference in Haun, 2010)

PEOP Model



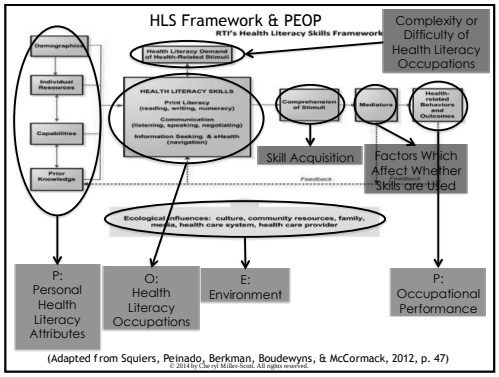
(Adapted form Baum & Christiansen, 2005, p. 242)

Health Literacy Occupations

- Searching & understanding medical information
- Comparing nutritional labels & selecting healthy foods
- Selecting product options to use
- Selecting & participating in healthy exercise habits
- Following through with prescribed care plans
- Reading & interpreting prescription bottles
- Understanding & selecting over the counter medication
- Keeping medical appointments & attending timely
- Complying with recommended preventive medical care
- Abide by any prescribed precautions
- Recognizing & acting on medical signs & symptoms
- Recognizing and making decisions based on family history
- Making decision regarding insurance coverage
- Recognizing & acting on critical side effects
- Home exercises & exercise programs
- (Not an all inclusive list)

Appendix C

Evidence-Based Health Literacy Training Program Presentation (p. 4)



(Adapted from Squiers, Peinado, Berkman, Boudewyns, & McCormack, 2012, p. 47)

Occupational Therapy Professionals

- *The American Occupational Therapy Association Health Literacy Societal Statement*
  - OTs can promote health through the use of education approaches that are **understandable and at the client's literacy abilities** (Pizur-Barnekow, & Darragh, 2011).
- *The American Occupational Therapy Association Code of Ethics & Ethics Standards*
  - OTs have the responsibility to provide services with an **understanding and sensitivity** to factors that may impact the care they identity, religion, culture and political affiliation" (AOTA, 2010, p. 7).

Occupational Therapy Professionals

- *The American Occupational Therapy Association Practice Framework (The Framework)* (AOTA, 2008)
  - **Education** intervention with a focus on **health promotion**, self management, and environmental modification.
  - **Consider the occupations** that clients must perform to achieve the highest level of health and well-being-health promotion.
  - **Understand underlying client factors** that may impact the therapist's ability to provide services in a fair and equitable manner
  - Prepare clients for **self-advocacy** and empowering clients to seek & obtain resources to participate in occupations

HEALTH LITERACY CONCEPTS: OUTCOMES & EVIDENCE

Health Literacy Impact on Cost

- $2,891 per enrollee annually, but **$10,688.25** for those with limited health literacy (Weiss & Palmer, 2004)
- The current costs associated with limited health literacy and due to the lack of public action since the *NAAL* survey in 2003, between **$1.6 trillion to $3.6 trillion** (Vernon et al., 2007)

Impact of Limited Health Literacy

- Higher healthcare costs
- Exhibit less health behaviors, associated with poorer health outcomes
- Poorer understanding of basic health terminology
- Limited awareness of basic concepts of common diseases
- Less awareness of preventive health measures
- Less knowledge of their medical conditions and self-care instructions

(As cited in Weiss, 2007)

Appendix C

Evidence-Based Health Literacy Training Program Presentation (p. 5)

HEALTH LITERACY ASSESSMENT

Health Literacy Assessment Options

- Rapid Estimate of Adult Literacy in Medicine (REALM)
- The Health Literacy Skills Instrument (HLSI)
- Test of Functional Health Literacy in Adults (TOFHLA)
- Newest Vital Sign (NVS)

Newest Vital Sign

Nutrition Facts	
Serving Size	½ cup
Servings per container	4
Amount per serving	
Calories 250	Fat Cal 120
	%DV
Total Fat 13g	20%
Sat Fat 9g	40%
Cholesterol 28mg	12%
Sodium 55mg	2%
Total Carbohydrate 30g	12%
Dietary Fiber 2g	
Sugars 23g	
Protein 4g	8%

*Percentage Daily Values (DV) are based on a 2,000 calorie diet. Your daily values may be higher or lower depending on your calorie needs.

Ingredients: Cream, Skim Milk, Liquid Sugar, Water, Egg Yolks, Brown Sugar, Milkfat, Peanut Oil, Sugar, Butter, Salt, Carrageenan, Vanilla Extract.

Score Sheet for the Newest Vital Sign Questions and Answers

READ TO SUBJECT: This information is on the back of a container of a pint of ice cream.

1. If you eat the entire container, how many calories will you eat?
   Answer: 1,000 is the only correct answer
2. If you are allowed to eat 60 grams of carbohydrates as a snack, how much ice cream could you have?
   Answer: Any of the following is correct: 1 cup (or any amount up to 1 cup), Half the container. None, if patient answers "two servings," ask "How much ice cream would that be if you were to measure it into a bowl."
3. Your doctor advises you to reduce the amount of saturated fat in your diet. You usually have 42 g of saturated fat each day, which includes one serving of ice cream. If you stop eating ice cream, how many grams of saturated fat would you be consuming each day?
   Answer: 33 is the only correct answer
4. If you usually eat 2500 calories in a day, what percentage of your daily value of calories will you be eating if you eat one serving?
   Answer: 10% is the only correct answer

READ TO SUBJECT: Pretend that you are allergic to the following substances: Penicillin, peanuts, latex gloves, and bee stings.

5. Is it safe for you to eat this ice cream?
   Answer: No
6. (Ask only if the patient responds "no" to question 5) Why not?
   Answer: Because it has peanut oil.

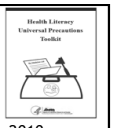
	yes	no

Interpretation Number of correct answers: ____

Score of 0-1 suggests high likelihood (50% or more) of limited literacy
Score of 2-3 indicates the possibility of limited literacy.
Score of 4-6 almost always indicates adequate literacy.

(Hubbard, 2011).

Health Literacy Universal Precaution Toolkit



- Prepared by the NC Network Consortium for the Agency for Healthcare Research & Quality in 2010
- Provides step-by-step tools for assessing clinical practice and making changes to connect with patients of all literacy levels
- Provides a systematic approach to reducing the complexity of medical care and ensure that patients can succeed in the health care environment
- Suggests taking specific actions that minimize risk for everyone - when it is unclear which patients may be affected by health literacy

(DeWalt et al., 2010)

HEALTH LITERACY INTERVENTIONS

Patient Education Impacts Health

- Effective client education is measured by the client's ability to recall and apply newly learned information (London, 2009; Schillinger et al., 2003).
- Effective education is essential for clients and caregivers to make effective healthcare decisions and appropriately self-direct their medical care (Bastable, 2006; Falvo, 2011).
- Effective patient education can:
  - Improve **patient safety** (University of California at San Francisco, 2001; Haines, Hill, Bennell, & Osborne, 2006),
  - Improve **patient satisfaction** (Bertakis, 1977; Tung, & Chang, 2009), and
  - Better prepare clients for **discharge home** (Bastable, 2006; Falvo, 2011).

Appendix C

Evidence-Based Health Literacy Training Program Presentation (p. 6)

Patient Education Impacts Outcomes

- Enhance patient/caregiver satisfaction
- Prepare patient for community discharge
- Assist patient/caregiver to identify realistic expectations
- Improve functional outcomes
- Improve patient/caregiver compliance with safety, medication, health and rehabilitation protocols
  - Reduce risk for re-hospitalization
  - Reduce risk for injury at home

Characteristics of Excellent Educator

- Confidence
  - Selects what to teach, alleviates anxiety, selects appropriate environment, and prepares plan and materials
- Competence
  - Decides what is important to teach, ensures their safety, provides written instructions, and teaches home management
- Communication
  - Provides clear direction, simple pictures and models, and speaks the patient's language
- Caring
  - Has empathy, recognizes concerns, provides encouragement, ensures adequate time, and shows sensitivity

(Rankin, Stallings, & London, 2005)

Health Literacy Interventions

Verbal# CommunicaDons#

Wril en# CommunicaDons#

Health# #PromoDon#

The# #Environment#

HEALTH LITERACY for Occupational Therapy

HEALTH LITERACY: VERBAL COMMUNICATIONS

Plain Language Solutions

- Actively attempt to reduce barriers to learning
- Consider why is it difficult for clients to understand
- Consider how much information do clients want to know
- Consider how willing they are to learn more about their health
- Encourage clients to ask questions regarding their health
- Acknowledge client's efforts in gathering information
- Help patients to learn and explore additional information
- Involve an advocate
- Consider how much information they are ready to understand
- Encourage them to create a record of their health information
- Encourage clients to ask questions

(Osborne, 2013)

Clear Communication Strategies

- Speak Slowly
- Use Simple Lay Language, avoid medical jargon or abbreviations
- Facilitate participation
- Ask questions to determine understanding & facilitate independent thought
- Allow time for questions
- Know your audience and their learning mode needs

Appendix C

Evidence-Based Health Literacy Training Program Presentation (p. 7)

A Clear Communication Technique

- *Teach-back* is a clear communication technique that clinicians can use to confirm clients understand what they have taught them and can improve communications with clients (Weiss, 2007).
- During *teach-back* clinicians ask clients to state in their own words key concepts from the instructions presented to them; or the clinicians may ask the clients to demonstrate what they have been taught.

Teach-Back is…

- Asking patients to repeat in their own words what they need to know or do, in a non-shaming way.
- NOT a test of the patient, but of how well *you* explained a concept.
- A chance to check for understanding and, if necessary, re-teach the information.

(Minnesota Health Literacy Partnership, 2011)

Teach-Back is Supported by Evidence

- Research suggests that the teach-back method and effective education programs:
  - Are effective in improving patient retention of information and preventing readmission to the hospital. (Garcia, 2011)
  - Improved patient satisfaction (Tung & Chang, 2009)
  - Improved patient understanding of informed consents (Flowers, 2006)
  - Improved fall prevention (Haines, Hill, Bennell, & Osborne, 2006)

Teach-Back is Utilized by:

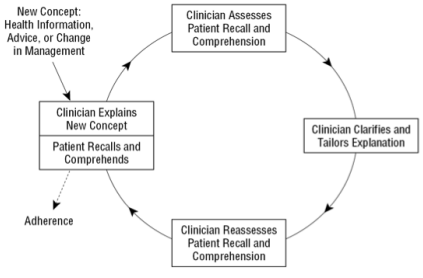
- The American Medical Association (2007) reports [teach-back is] *"an effective method for ensuring that patients understand what you have told them" (Weiss, 2007, p. 33)*
- The National Center for Ethics in Healthcare (2006) states teach-back can "*improve efficiency in clinical practice" and help clinicians "identify patient-specific barriers to communication" as well as act as a tool for clinicians to asses "their own communication skills"(p. 2)*

Teach-Back & Patient Safety

- The *Agency for Healthcare Research and Quality (AHRQ)* (UCSF, 2001) identifies *teach back* as one of the top eleven patient safety practices based on the strength of scientific evidence. Evidence supports the use of *teach back* as an effective means of improving their level of understanding, and reducing their misunderstanding.

(Shojania, Duncan, McDonald, & Wachter, 2001)

Teach-Back: "Closing the Loop"



(Schillinger et al., 2003)

Appendix C

Evidence-Based Health Literacy Training Program Presentation (p. 8)

HEALTH LITERACY: WRITTEN COMMUNICATIONS

Written & Pictorial Materials

- Have been published, reviewed, and supported by evidence in the last 3 years
- You have rights to distribute
- Are high quality, professionally printed
- Clearly send the clinical message you intend to convey
- Are published at the fifth grade reading level
- Meet the requirements identified on a Learning Mode Assessment

(McGee, 2010)

Written Materials: Assess for Literacy

- **Simplified Measurement of Gobbledygook (SMOG):**
  - Reading grade level tool
  - Count all words with 3 or more syllables in three 10-sentence passages
  - Circle all words with three or more syllables)
- **Suitability Assessment of Materials (SAM):**
  - 22 SAM factors
  - Considers content, literacy level, graphics, layout, motivation, cultural appropriateness
- **Frye Readability Factor**
  - Count number of syllables and sentences in three 100-word passages to determine accurate grade level of reading
- **Computer-based Readability Formula**

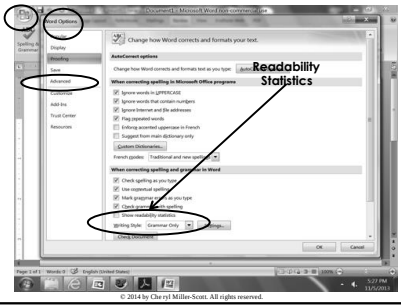
(Osborne, 2013)

SMOG Conversion

Word Count	Grade Level
0-2	4
3-6	5
7-12	6
13-20	7
21-30	8
31-42	9
43-56	10
57-72	11
73-90	12
91-110	13

A stroke can cause temporary or permanent paralysis on one side of the body. It can affect balance vision, memory, speech, cognition, and cause other complications such as muscle spasm and pain. For these reasons, people who have experienced a stroke may have difficulty with daily activities (occupations) such as bathing, dressing, and managing a household, and with performing familiar roles. Occupational therapy practitioners address the physical, cognitive, and emotional challenges brought on by a stroke, and they can help stroke survivors engage in the things they want to and need to do. (AOTA, 2013)

Readability Statistics in Word



HEALTH LITERACY: HEALTH PROMOTION

Appendix C

Evidence-Based Health Literacy Training Program Presentation (p. 9)

Occupational Therapy Professionals

- *Occupational Therapy in the Promotion of Health and Well-being Position Paper* (AOTA, 2013)
  - Recognizes the World Health Organization's definition for ***health promotion***, suggesting it is the "process of enabling people to increase control over, and to improve, their health" (p. 1).
  - This position paper suggests that "ensuring health literacy for non-English speaking populations" (p. 6) is an example of an occupation-based primary prevention intervention for occupational therapists.
  - It goes on to suggest other opportunities for occupational therapists to promote health. *(AOTA, 2013)*

Patient Activation & Engagement

- The Connection with Health Literacy
  - Patient Engagement: Actions that individuals must take to prevent disease and obtain the greatest benefit from the knowledge of both disease and prevention (Center for Advancement of Health, 2010);
  - Patient Activation: The ability to manage one's own health care. Evidence suggests that high activation may help compensate for lower literacy skills (Hibbard et al., 2010)

Patient Engagement- Smoking

Ask Me 3

- **Ask Me 3** is a patient education program designed to improve communication between patients and health care providers, encourage patients to become active members of their health care team, and promote improved health outcomes. The program encourages patients to ask their health care providers three questions:
  - **What is my main problem?**
  - **What do I need to do?**
  - **Why is it important for me to do this?**

Ask Me 3®

(National Patient Safety Foundation, 2012)

HEALTH LITERACY for Occupational Therapy

HEALTH LITERACY: THE ENVIRONMENT

OT Framework Environmental Domains

- Physical – natural & built environment
- Social – created by the relationships, and expectations of persons, groups, and organizations with whom the client has contact.

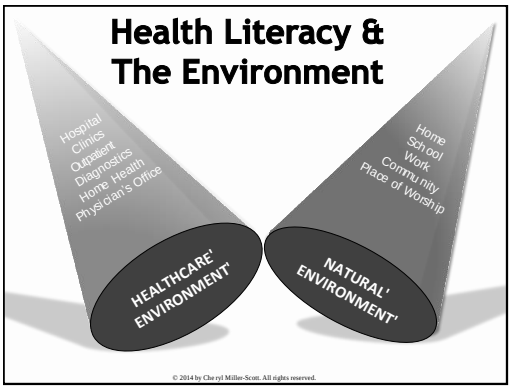
Appendix C

Evidence-Based Health Literacy Training Program Presentation (p. 10)

OT Framework
Contexts

- Cultural - customs, beliefs, activity patterns, behavior standards, and expectations accepted by the society of which the client is a member.
- Personal – demographic features of client
- Temporal - stages of life, time of day or year, duration, rhythm of activity, or history.
- Virtual - interactions in simulated, real-time, or near-time situations

Health Literacy & The Environment



Health Literacy:
Health Care Environment

- Phone communications
- Website communication
- Entrance way
- Signage
- Giving directions & navigational aides
- Sign in and registration
- Acronyms and abbreviations used
- Heath literacy policies
- Insurance coverage & contracts
- Reimbursement policies
- Platform for health information message
- Methods of health communication

(Rudd, 2010)

The Environment Impacts
Health Care Systems

- Shame
  - Create an equal playing-field
  - Use the teach-back method
  - Promote a shame-free environment
- Temporal - Time
  - Speak slowly
  - Allow time for questions
  - Use the teach-back method to confirm understanding

(Osborne, 2013)

The Health Care
Learning Environment

- Clinicians selecting the most appropriate environment to provide patient education should consider:
  - Privacy and Freedom from distractions
  - Access to necessary supplies and equipment
  - Patient comfort
  - Appropriate lighting
  - Adequate accessibility

Health Literacy:
Natural Environment

- Space to store & prepare nutritional foods
- Accessibility to exercise
- Time dedicated to health promotion
- Access to medical care
- Tools to help manage medications
- Insurance coverage & contracts
- Health beliefs & practices
- Access to health information
- Access to spiritual health
- Health safety and prevention plan

Appendix C

Evidence-Based Health Literacy Training Program Presentation (p. 11)

HEALTH LITERACY: CONCLUSION

Our Role in Health Literacy as Health Professionals

- Better understand health literacy, the current status and focus of the field, and how it got there
- **NOT** about improving health literacy skills, we must make changes in the face of existing skills (Rudd, 2009)
- O.T.s need to balance the transactions between their client's health literacy occupations, and their individual health literacy skills within their environment to better understand and adjust the demands on the patient
- To serve as a health literacy advocates

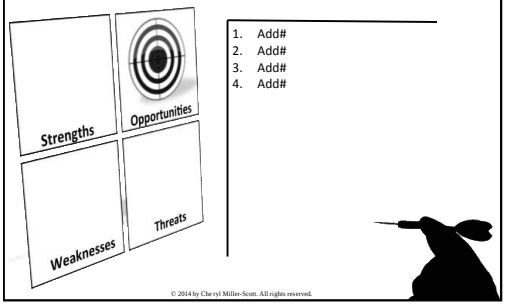
Our Role as Health Literacy Advocates

- The pursuit of influencing outcomes that directly influence people's lives
- Serve as a health advocate, or to support and promote client's health care rights as well as enhance community health and policy initiatives that focus on the availability, safety, and quality of care
- To promote self-advocacy, or the ability to understand self-strengths and needs, identify personal goals, and communicate these to others

Call to Action…

- Now with a common understanding of the "Issue is Health Literacy…"
- What's next???
  - What opportunities for action do you see or would you be willing to act upon or commit to?
  - How can you maximize your students' abilities to become health literacy advocates?
  - Who owns it and how to move the initiative forward?

Aiming at the Opportunities



QUESTIONS?

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Evidence-Based Health Literacy Training Program Presentation (p. 12)

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Evidence-Based Health Literacy Training Program Presentation (p. 13)

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Appendix D

Training Program Feedback Form (p. 1)

Health Literacy Training Program Feedback Form (Appendix D)

Education Title: Evidence-Based Health Literacy Education for Occupational Therapy Professionals Education Date: 2/21/2014
Author Name: Cheryl Miller, OTR/L
Participant's credentials: ☐ OT ☐ OTA ☐ Other Healthcare Professional
Participant's practice patterns: ☐ Practitioner ☐ Faculty ☐ Other: _____
Participant's total years licensed: ____year(s) ____month(s)

Instructions to Participant: After attending the Evidence-Based Health Literacy Education Program please take a moment to answer this feedback form. Your feedback will be used for future enhancements to the education. Please include comments regarding any strengths, and suggestions for improvements. Select one response: **Not at All, Somewhat (S/W), or Very** for each question. Comments are optional for each question; use the back of the form if additional space is needed.

		Prior Practices	Not at All	S/W	Very	Comments
SECTION A	1	Were you familiar with **the concepts of health literacy** prior to this education?				
	2	Extent to which you **used the *Newest Vital Sign*** in your current job responsibilities prior to this education?				
	3	Extent to which you **used *Health Literacy Universal Precautions*** in your current job responsibilities prior to this education?				
	4	Extent to which you **used the *Teach-Back Method*** in your current job responsibilities prior to this education?				
	5	Extent to which you **used *readability*** concepts in your current job responsibilities prior to this education?				
	6	Extent to which you **used the Ask Me 3 Program** in your current job responsibilities prior to this education?				
		Education Objectives	**Not at All**	**S/W**	**Very**	**Comments**
	7	Were the following objectives addressed by education content:				
	a	Improved understanding of the concepts and evidence of health literacy; including its impact on clients' outcomes				
	b	Improved understanding of the theoretical framework which are used to approach health literacy.				

Appendix D

Training Program Feedback Form (p. 2)

	c	Improved understanding of the impact of limited health literacy on clients' engagement in their health & wellness.				
	d	Improved understanding of the health literacy assessments and interventions available to healthcare professionals.				
		Education Content	**Not at All**	**S/W**	**Very**	**Comments**
SECTION C	8	Did the evidence persuade you that action must be taken by occupational therapy or other allied health professionals to reduce the impact of limited health literacy on our clients?				
	9	Did the education clearly convey the relationship of health literacy to the Person-Environment-Occupation-Performance theory?				
	10	Did the evidence that was presented persuade you to incorporate health literacy intervention strategies in your job responsibilities?				
	11	Did the education content meet your learning needs as an occupational therapy or other allied health professional?				
	12	Was the education content clear?				
	13	Was the education content concise?				
	14	Would you recommend this education be a requirement for occupational therapy or other health care professionals?				
		Education Format & Timing	**Not at All**	**S/W**	**Very**	**Comments**
SEC. D	15	Was the format of the education conducive for learning?				
	16	Was the one-hour time planned for this education adequate?				
Additional Comments or Suggestions:						
SEC. E						