2017

Investigating the Effectiveness of Web-based Recommended Practice Tutorials for Caregivers of Children in Early intervention Programs

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Section I

Introduction

Caregiver participation and carryover are critical components in early intervention (EI). A child identified for early intervention services under Part C of Individuals with Disabilities Education Act (IDEA) must meet one of three eligibility criteria: 1) a qualifying diagnosis, 2) demonstrating 25% developmental delay, or 3) presenting with atypical development. Part C of IDEA emphasizes the importance of EI as a means to enhance development of infants and toddlers with disabilities, while improving outcomes for independence, and augmenting a family's ability to meet their child's individual needs (Case-Smith, 2013). This occupational therapy educational leadership pilot study focuses on examining the efficacy of providing supplemental instruction for occupation-based *recommended practices* via web-based tutorials.

In early intervention (EI), therapists, educators, and other EI professionals provide individualized face-to-face instruction for eligible children participating under an Individualized Family Service Plan (IFSP). Instruction occurs in natural settings, such as, homes, daycare, and preschool. The intent of this study is to identify whether or not online web-based tutorials supplementing *recommended practices* is effective in supporting caregivers in meeting outcomes and priorities identified within the Individual Family Service Plan (IFSP).

The needs assessment for this study investigated current collaboration and communication methods and explored new and innovative ways to share information. One potential way to share information is by using web-based tutorials as a resource for caregivers. This study hopes to expand leadership and carryover with caregivers by providing informational tutorials on *recommended practices* that can be applied in real world situations.

Within early intervention settings there are many *recommended practice* themes shared with caregivers of young children, such as, general feeding guidelines and establishing mealtime and bedtime routines. *Recommended practices* should facilitate collaboration and communication across multiple settings by providing activities that provide the most impact on child outcomes (DEC, 2015).

That being said, within EI programs there are often multiple providers and caregivers working with young children receiving services under an Individual Family Service Plan (IFSP). Many times, these children are cared for within multiple natural settings. Frequently, pertinent strategies and suggestions need to be shared with all caregivers across the various settings.

The Division of Early Childhood's (DEC) *recommended practice* guidelines are to provide caregivers with modeling and coaching techniques to promote ownership, confidence, problem-solving, and carryover. A *coaching* model is supported among various EI programs. This study aims to determine if supplemental instruction via a web-based *recommended practice* tutorial web-site is effective in supporting face-to-face individualized intervention.

The Division of Early Childhood (DEC, 2015) *Recommend Practices* suggests quality EI programs support family-centered practices in natural environments fostering respectful nurturing relationships between EI specialists and caregivers. This study hopes to identify potential ways improved communication and collaboration can be provided to impact a child's life at home, daycare, preschool, or other inclusive environments.

This researcher noticed when an eligible child is provided services within one setting, other caregivers of the child might not recognize or receive information significant to the child's development. This research study is designed to investigate if sharing *recommended practice*

information within an internet based website is an effective way to share information with multiple caregivers.

The review of literature revealed many studies which supported the effectiveness of web-based instruction for adult learners. However, there are few studies demonstrating use and effectiveness of supplemental web-based instruction in early intervention. Web-based instruction is not intended to replace individualized face-to-face intervention but rather support general *recommended practices* in a convenient format where participants can access information at their convenience and as many times as they require to attain knowledge.

Problem Statement

This study is developed to address difficulties with carryover related to understanding recommendations and implementing strategies for young children involved in early intervention programs after individual therapy sessions have ended. Opportunities for coaching and modeling strategies while the therapist is present are limited by time and space constraints. When caregivers are living life with their child they might experience questions about general practice recommendations especially when explaining strategies to other caregivers of the child. In this therapist's experience, caregivers generally wait for their questions or concerns to be answered during the next therapy visit. Developing an instructional web-site with general *recommended practices* may not only support caregiver access to information, but allow access as often as needed.

Practitioners in EI have limited time for face-to-face instruction between all members on an IFSP team due to timing, location, and individual scheduling demands. Organizational structures for communication and teaming; along with administrative support and funding are

barriers to providing services across multiple natural settings for an eligible child receiving EI services (Henry, 2016).

Henry (2016) emphasizes demands on therapists, such as, lack of time, lack of support, and limited mentorship have resulted in deficits in gathering data through evidence-based research. While there are many studies to support web-based learning in adult education, there are few studies demonstrating using web-based instruction with EI caregivers. Therefore, little evidence exists to support using online training tutorials in EI caregiver training.

Occupational therapists are well-suited to aid in "bridging the gap" using technology to support meaningful application of *recommended practices* addressing everyday life concerns (Lee, 2016). Using online video training may help impact daily routines through modeling and coaching occupation-based *recommended practice* suggestions for caregivers in EI programs. Additionally, occupational therapists are able to provide input and evidence-based *recommended practice* strategies and general guidelines for natural feeding and bedtime routines, and to support learning under a parent coaching model of intervention.

The problem addressed will be "Is using an online learning platform an effective adjunct way for caregivers of young children to learn *recommended practice* information?"

Purpose

The intent of this pre-test/post-test study design is two-fold: 1) are web-based tutorials effective for caregivers in EI programs to learn *recommended practice* content and 2) examine caregiver attitudes toward using online training tutorials. In early intervention, recommendations and strategies provided by the EI practitioners need to be shared with all individuals working with the child. Recommended practice information is especially relevant when a child is cared for by several individuals, such as, mother, father, grandfather, grandmother, aunts, uncles,

nurses, siblings, daycare providers, or preschool staff. Therefore, the purpose of this Capstone project is to gather evidence supporting whether or not using online training tutorials is an effective method of sharing information with multiple caregivers in EI.

Schaaf (2005) discusses the importance of using data-driven decision making (DDDM) in occupational therapy to help guide frameworks of clinical reasoning. The evidence gathered in this Capstone project could reveal if using technology to promote *recommended practice* instruction in EI is effective and meaningful for parents and caregivers.

Project objectives/research questions

1. How do caregivers want to learn early intervention *recommended practice* recommendations?
2. Are web-based *recommended practice* instructional tutorials effective in teaching caregivers?
3. After completing the instructional tutorials, did caregivers improve their knowledge related to *recommended practice* content?
4. Did participants perceive online instruction was an effective way for them to learn?

Theoretical Frameworks for Study Design

Occupational Therapy Framework

Occupational therapy framework focuses on client-centered, evidenced-based approaches; proposing occupational therapists and clients work together to solve difficult problems (Fearing, Law, & Baum, 1997; AOTA, 2014). Occupational therapy's practice framework's (2014) all-encompassing theme is to promote everyday activities as the method for enabling clients to make meaningful and relevant activities the goal of their therapeutic intervention. It is the occupational therapist's responsibility to recognize these meaningful

activities as a means to incorporate therapeutic intervention to meet their client's needs (AOTA, 2014). In EI many families are struggling to establish daily routines and occupational therapists are experts in recognizing meaningful daily routines (Case-Smith & Lindsay, 2016).

In early intervention, occupational therapists are part of a multidisciplinary IFSP team focusing on family priorities and helping caregivers solve difficult problems. Natural EI settings, provide the staging area to use *recommended practices*, and occupation-based approaches make occupational therapists excellent leaders in modeling and coaching participants (Arbesman, Lieberman, & Berlanstein, 2013; DEC, 2015).

Instructional Design Framework

The instructional design theoretical approach used in this study is the Technological Pedagogical and Content Knowledge (TPACK) model. TPACK is a framework which addresses multiple domains and identifies how instructors can effectively and meaningfully use technology to enhance student learning (Mishra & Koehler, 2006). Content information provided using web-based sessions allows participants to engage in meaningful learning, conveying this knowledge into "real world" experiences in caring for their young child. This model of design is effective in incorporating technology to support adult learning.

Significance of the study

Based on the findings from the study, the investigator will uncover whether using web-based tutorials is an effective way to provide parents and caregivers information regarding *recommended practice* in early intervention. The information revealed from this study may impact future development of in-services for caregivers and providers working with young children in EI programs. The study may uncover significant factors in how parents/caregivers want to learn and what type of instruction best meets their needs.

Further, this study may help providers by creating a general reference web-site for parents and caregivers to access when seeking recommended practice guidelines. This may help providers be more time and cost effective, as they will have more time to provide individualized instruction for caregivers.

Summary

Occupational therapist are well-suited to provide expertise in analyzing caregiver roles and responsibilities in establishing daily routines. In EI, occupational therapists are an integral part of the IFSP team and help families identify priorities and outcomes significant to their daily lives. This study hopes to identify a potentially meaningful way to support caregivers of a child participating in EI programs to benefit from understanding general *recommended practices*.

Section II

Literature Review

The literature review was conducted using Eastern Kentucky University's library system. An EBSCO search was conducted using key words: early intervention, caregiver training, parent training, parent instruction, web-based instruction, adult learning, caregiver collaboration, online learning, recommended practice, and computer-assisted instruction. Further literature was reviewed through the Division of Early Childhood and Google Scholar internet searches.

There is considerable literature documenting the effectiveness of web-based online instruction through academic and distance education environments. There was limited research on the effectiveness of online learning and instruction specific to caregivers of children receiving early intervention services. This literature review concentrated on 1) identifying how adults learn 2) use of web-based instruction in early intervention programs 3) building collaboration

with caregivers in early intervention settings, and 4) linking occupation-based practices to meaningful learning experiences.

Adult Learners

Learning in adulthood is different than learning in childhood and needs to be addressed through convenient meaningful learning situations. Since the 1920's educators and theorists have suggested that in order to meet adult learning needs, instructors must modify their approach to instructional design. In 1970, Malcolm Knowles developed a set of assumptions regarding adult learning, from the work of Lindeman's 1926 book "*The Meaning of Adult Education*" (Baumgartner, Lee, Birder, & Flowers, 2003).

In his book, Knowles (1980) described adult learners using five assumptions: 1) learners move from being dependent on the teacher to being self-directed 2) adults have a greater volume and different quality of experiences than children 3) timing of learning experiences is related to developmental tasks 4) adult learning is problem-centered, and 5) adults are internally rather than externally motivated to learn. These assumptions are still used today to influence the design of instruction for adults.

Knowles recognition of adult learners as being self-directed, leads to the next two learning theories: transformative and self-directed. Both theories suggest learners go through a type of metamorphosis in order to transform their beliefs (Baumgartner et al., 2003). Transformative learning suggests learners recognize and critically reflect upon personal beliefs. In gaining new knowledge, adults analyze learning, developing new sets of beliefs, relating to their personal experiences. Transformation begins when individuals identify particular problems and seek to gain knowledge expanding their beliefs (Baumgartner et al., 2003). When individuals seek to enhance learning it becomes self-directed.

Self-directed learning is acquired through planning, carrying out, evaluating, and applying new knowledge to personal experiences (Baumgartner et al, 2003). Caregivers with children in early intervention programs often identify problems and seek solutions to improve their daily life. In today's world, this process is frequently initiated by using an internet search. To attest to this, Google (2016) reports processing over 40,000 internet searches per second.

Web-based Instruction in EI

Web-based instruction in early intervention parent training appears to be a relatively new area of study, however adult learning through online instruction is thoroughly documented. In 2014, Hollingsworth and Lin found using web-based tutorials with early childhood professionals improved learner knowledge and competency; reportedly being most effective when "real-world" scenarios were used. Son and Lim (2014) found web-based education programs to be effective in improving quality of life and home-based care when used by mothers of children with atopic dermatitis.

In the 2014 study, Son and Lin found young mothers interested in using the internet were more likely to participate in the study compared to older mothers. In that same manner, mothers with more than one child at home were less likely to participate in online learning (Sone & Lin, 2014). Wade, Wolfe, Brown, and Pestian (2005) found web-based instruction in content and problem solving very helpful for parents of children suffering from traumatic brain injuries. Hollingsworth and Lim (2014) found web-based tutorials to be effect in expanding early intervention practitioner's knowledge and competence; some preferring online methods over traditional instruction.

Self-guided web-based platforms can provide convenient, flexible learning opportunities, sharing real-world scenarios. Chumley-Jones, Dobbie, and Alford (2002) suggest web-based

learning provides ease of accessibility, ease of adjustments to content, and ease for instructors to insert plug-ins and hyperlinks. Chumley-Jones et. al. (2002) describe online learning as an efficient way to support online learners. Learners in Hollingsworth and Lin's 2014 study, shared using videos and realistic situations being the most useful resources in the training tutorials.

Building Collaboration with Caregivers

In order to provide meaningful, family-centered intervention strategies and techniques, early intervention practitioners must build collaborative relationships with families. Douglass (2011) shared family-engagement is key in early intervention (EI) programs. Building relationships between EI providers and families is critical in fostering trusting, friendly, sensitive relationships focused on "shared power, reciprocity, and positiveness" (Douglass, 2011).

With the passage of public law 99-457, the Division for Early Childhood (DEC) recognized the need for nationwide standards in servicing young children with disabilities. In 1991, the DEC developed *Recommended Practices*, as a standard of practice for early intervention programs. Today, the DEC *Recommended Practices* are meant to be a guide for practitioners and families encouraging development of eligible children through specific learning objectives (DEC, 2015).

Recommended practices are not disability specific and should be constructed using observable, developmentally appropriate practices, deliverable in natural early childhood settings (DEC, 2015). *Recommend practices* are evidenced-based and intended to "bridge the gap" between existing research and practice. *Recommended practices* support children receiving early intervention services in achieving their highest potential (DEC, 2015, p. XI).

Early Intervention services have been found most effective using a family-centered approach, using a collaborative shared effort between practitioners and families. Building

trusting, effective relationships, providers and parents enhance existing parent knowledge through meaningful experiences expanding parenting skills.

The DEC (2015) supports respectful, culturally-sensitive partnerships facilitating teaming and collaboration in order to build ongoing relationships with families. Provider acknowledgment of a family's cultural and religious beliefs, as well as, traditions, values, and routines creates partnerships in which all members of the Individual Family Service Plan (IFSP) team feel valued and respected. Promoting participation and engagement of others involved in a child's life, provides sensitive and responsive ways to support a child's development, and is critical in early intervention (DEC, 2015). EI specialists enhance collaborative partnerships by assisting families in identifying community supports and coaching primary caregivers in strategies to meet family needs.

The Anne E. Casey Foundations "Kids Count" (2012) report indicates in the past ten years, extended family members and close family friends have had to care for 2.7 million children in the United States. *Kids Count* (2012) discloses one in five black children spend time during their childhood in kinship care. Therefore, investing in building supportive relationships with caregivers can reduce government spending on intervention later in life (Anne E. Casey Foundation, 2012).

EI programs support family-centered relationships by assisting families in navigating bureaucratic agencies and identifying local supports to help reduce anxiety, chronic stress, and physical illness, uncovering the challenges many families face. Douglass (2011) found that large bureaucratic organizations often act as barriers to high-quality family partnerships, as these structures emphasize professional methods not conducive to building caring and collaborative

relationships. Using web-based instruction could help break down barriers by providing convenient accessible support for caregivers.

Occupation-Based Practice

Occupational therapists are experts in using everyday routine tasks to help enhance and enable people to participate in their roles (AOTA, 2014). Occupational therapists in EI focus on family-centered approaches engaging families and children in performing their occupational roles and daily routines (Case-Smith, 2013). As experts in analyzing daily roles and tasks, occupational therapists are accountable for providing effective service to their clients (AOTA, 2014).

Occupational therapists have the skills to empower caregivers in early intervention settings. Occupational therapists challenge caregivers by providing brainstorming opportunities, leading to problem solving solutions (Henry & Lindsay, 2016). This problem solving ability enables caregivers to solve difficult problems and is instrumental in advancing a child's behavior and functional capabilities on a daily basis (Henry & Lindsay, 2016).

Occupational therapists assist families and caregivers in understanding and enhancing a young child's ability to participate in age appropriate daily occupations. Occupation-based practices will be instrumental in designing *recommended practice* training tutorials, as they represent meaningful routines used with young children. Occupation-based online learning tutorials could build scaffolding for future successful intervention with children and caregivers.

This study hopes to understand how occupational therapists might support caregivers of children in early intervention programs by disseminating information reasonably, ethically, and responsibly. Using online training tutorials may assist in locating information and reviewing appropriate family-based techniques. Developing occupation-based, meaningful routines are

significant for caregivers and therapists, therefore developing online training tutorials could potentially meet the needs of diverse client populations.

Summary

In today's fast track world of technology, using the internet to access information is a common occurrence. Adults frequently seek information via the world-wide web in order to find meaning and gain clarity concerning meaningful problems related to their everyday lives. According to Internet Live Stats website, *Google* processes over 3.5 billion internet searches per day and 1.2 trillion per year worldwide. Since 1998, searching the internet for answers has confirmed a phenomenal growth rate and today is a common daily occurrence for many individuals.

Occupation-based *recommended practices* provided through educational web-based instructional tutorials may help caregivers "bridge the gap" in following through with practitioner recommendations. Adults use the internet voluntarily through self-directed inquiry. This study hope to use this self-directed means of learning as a way to enhance carryover of *recommended practice* information. Creating *recommended practice* instructional tutorials could be viewed voluntarily and creates an environment advantageous for self-directed learning. Web-based supplementary instruction could positively impact the success of early childhood intervention programs.

This adult learning opportunity is being designed using an eclectic approach, based on adult learning theories, grounded phenomena in using the internet to search for information, and occupation-based *recommended practices*. This web-based instructional method hopes to meet the needs of multiple caregivers in learning information supporting the development of meaningful daily routines.

Occupational therapists are well suited to provide instructional content, through activity analysis and examining caregiver roles and daily routines. This study will provide an opportunities for adult learners to expand their knowledge and share their attitudes about learning using web-based tutorials. Ultimately, the researcher hopes participants gain knowledge, confidence, competence, and consistency utilizing *recommended practice* strategies through supplemental web-based instruction.

Section III

Methods

Project Design

This occupational therapy educational leadership study will use a convergent parallel mixed-methods design. Convergent parallel mixed method design allows for comprehensive analysis through qualitative and quantitative data collection (Creswell, 2014). This convergent parallel mixed methods approach will focus on examining effectiveness in providing supplemental web-based instruction for occupation-based general *recommended practices* in early intervention settings. Using phenomenological inquiry and pretest and posttest measures, this twofold study intends to examine 1) caregiver perceptions and attitudes in using web-based tutorials supporting supplemental *recommended practice* information and 2) evaluate content knowledge.

Prior to developing the study proposal, a needs assessment was conducted to identify how information is being relayed in early intervention (EI) settings. Survey results yielded findings suggesting the use of web-based tutorials as a potential means for sharing general practice recommendations. A thorough literature review was conducted identifying 1) using technology

to support learning, 2) understanding adult learning styles, and 3) examining occupation-based recommended practices.

Using the needs assessment and literature review, study objectives were developed. This supplemental instructional method is being developed in an effort to support, not replace traditional face-to-face early intervention therapy sessions. The objectives identified were:

1. How do caregivers want to learn early intervention *recommended practice* recommendations?
2. Are web-based *recommended practice* instructional tutorials effective in teaching caregivers?
3. After completing the instructional tutorials, did caregivers improve their knowledge related to *recommended practice* content?
4. Did participants perceive online instruction was an effective way for them to learn?

Evidenced-based content tutorials will be created and uploaded to a dedicated web-site. Fifteen to twenty voluntary participants will be selected through snowball sampling. Potential participants will be provided a cover letter describing this survey (see Appendix 1).

If interested in the study, subjects will be asked to sign up by providing the investigator an email address. Regardless of participation in the study, all individuals who provide an email address will be entered in a drawing for a chance to win a $25 amazon.com gift card. The researcher will be available to answer and questions/concerns as they arise throughout the study.

Potential participants interested in the study will be contacted via email and asked to complete a pre-study questionnaire survey determining suitability for participation (see Appendix 2). Once participants meet suitability criteria, they will be provided a four-dided code

and directed to the dedicated website. Participants who do not meet the criteria will be informed they are still eligible for the first $25 amazon.com gift card drawing.

In the designated website, qualified participants will be provided an informed consent statement, such as, "*The completion of these training tutorials constitutes your informed consent to participate in this study. You may withdraw from the study at any time. We do not ask for your name or identifying information, however you will be assigned a random code for data analysis*." Participants will be notified within the website: upon completion of all three training tutorials they will entered in a second $25 amazon.com gift card drawing.

Prior to beginning the training tutorials, participants will be assigned a random code for data analysis, providing the following bracketed demographic information:

1. Age range- 18-24 years, 25-30 years, 31-40 years, 41-50 years, and 50+
2. Gender
3. Income range- under $25, 000, $25, 000-50,000, $50,000-75,000, $75,000-90,000, 90,000-120,000, $120,000+
4. Race-Black or African American, American Indian and Alaska Native, Asian, Pacific Islander or Hawaiian, Caucasian, or other
5. Highest level of education-Less than high school, High school graduate (includes equivalency), Some college, no degree, Associate's degree, Bachelor's degree, Graduate or professional degree, Ph.D. or higher
6. Number of children in the household under the age of 5 years

After completing demographic information participants will be directed to complete three training tutorials, including pre and post study questions. At their convenience, participants will have up to one week to complete all three training tutorials.

Once beginning each of the three training tutorials, participants will be asked to complete a pre-test survey using Likert scales and open-ended questions (see Appendix 3). These questions will be developed assessing initial attitudes and perceptions of participants, as well as, focus on *recommended practice* content within the training tutorial. At the completion of the training tutorials, participants will complete post-survey content questions indicating changes in knowledge and revealing attitudes and perceptions regarding the training intervention.

At the end of the study, one name will be drawn from all participants who provided an email address via randomized computer selection to win a $25 amazon.com gift card. Study participants who completed all three training tutorials will be emailed a certificate of completion and entered in a second randomized computer drawing for $25 amazon.com gift card. Winners of the gift cards will be notified via email and provided a gift code.

Once data is collected, the researcher will analyze results. The researcher will identify themes, attitudes, and perceptions using web-based intervention to support therapy sessions, as well as, results of content knowledge. This information will be shared via Capstone written report.

Setting

This Capstone project is being developed and implemented using a dedicated online training web-site. Participants for this study will be gathered via snowball sampling with contacts made via email, social media, or through face-to-face networking. Participants will be adult primary caregivers of young children age birth through five years involved in early intervention programs within the United States.

Participants

Participants for this study will be adult (age 18+ years) primary caregivers of children aged birth through five years old with a valid email address and access to the internet. In order to be eligible for the study, participants must currently or within the past year have been the primary caregiver of a young child receiving early intervention services under an Individual Family Service Plan (IFSP). Public law 99-457 involving Part C of Individuals with Disabilities Education Act's (IDEA) provides early intervention services through an IFSP (ERIC, 2016). No more than 20 participants will be selected for this study.

Participants will be selected via *snowball sampling* or respondent-driven sampling. Respondent-driven purposeful sampling allows for researchers to utilize existing professional relationships and networking to solicit study volunteers (Patten, 2009). Using social networking communication applications, such as, *Facebook* and *Linkedin*, as well as, collaboration with early intervention specialists, pre-school educators, and daycare providers of children with IFSP's will be petitioned to help identify eligible participants.

Using online and professional relationships, informants will assist in recruiting eligible participants for the study. According to Patten (2009) snowball sampling is useful for identifying select hidden populations using mutual relationships to identify eligible participants. Therefore, this approach is useful in uncovering potential participants for this study.

Ethical Considerations

Prior to proposing and implementing this occupational therapy study, the researcher completed institutional review board (IRB) training tutorials through *Collaborative Institutional Training Initiative* (CITI); a requirement of Eastern Kentucky University (EKU). Three training tutorials were completed: 1) Social and Behavioral Research 2) Social and Behavioral

Responsible Conduct of Research and 3) Conflicts of Interest. The researcher obtained passing scores in all three areas.

Strict adherence to the American Occupational Therapy Association's (AOTA, 2015) *Code of Ethics* was completed through a professional development session 11/11/2016 at the Maryland Occupational Therapy Association's annual conference, as well as, thoroughly reviewed by the researcher. Approval through Eastern Kentucky University's (EKU) instructional review board will be sought prior to beginning this study.

It is understood, using a snowball or respondent-driven sampling method does not provide for random sampling, as a small group of informants recommend and contact potential participants (Patten, 2009). Further, the snowball sampling method is dependent upon the initial informant's contacts and could produce subjective or inaccurate results, based on the informant's understanding of the target population (Patten, 2009).

Participation in this study is voluntary and there is no penalty for not completing training tutorials. All participants who provided an email address will be entered in a drawing to win a $25 amazon.com gift card. Participants will acknowledge via informed consent statement that they may withdraw from the study at any time. Only participants who complete all three training tutorials will be entered in a second chance drawing for a second $25 amazon.com gift card.

In order for subject anonymity and privacy, names and identifying information will not be collected. To maintain confidentiality, participant will be assigned a four-digit random code, prior to providing demographic information. Any identifying forms, such as, email lists will be kept in a locked file cabinet within a locked office space or on a password protected computer.

The study poses minimal risk to participants, no more than reviewing online information or completing online surveys in typical daily life. Participants will be asked to select

demographic information categories related to age, gender, income ranges, highest level of education, and number of children in the household under the age of 5 years. This information will be used to categorize potential themes in coding analyses. Demographic information will be provided anonymously at the beginning of the training tutorials.

Web Resources and Educational Content

Google forms, Quizlet, or similar websites will be used to create preliminary sampling survey materials, as well as, pre-test and post-test survey questionnaires. A Wix website (www.wix.com) will be constructed to house the *recommended practice* content to be used as the intervention in this study. The website will be password protected to gather pre and post study data. Evidenced-based *recommended practice* content will be presented in formats using *Prezi, PowerPoint with Screencast, TeacherTube or YouTube* videos.

Three instructional tutorials will be developed to present *recommended practice* content. The tutorials consist of general information tutorials created using Bloom's Taxonomy of Learning to facilitate meaningful adult learning styles. Driscoll (2005) shares Bloom's Taxonomy consists of three ways in which adults acquire knowledge through: cognitive, affective, and psychomotor outcomes. In this study, Bloom's proposed instructional theory assisted the developer in constructing meaningful content, based on everyday real-world caregiver practices. In this manner, content was designed to tap in to the participant's attention and willingness (affective aspect) to learn (cognitive aspect) recommended practices and ultimately utilize (psychomotor aspect) these caregiver practices within their daily routines (Driscoll, 2005).

Outcome Measures

After completion of the study, outcomes will be identified reflecting discovery of themes and through pre-test and post-test information revealing knowledge in content areas and attitudes toward this online intervention. The themes identified will provide evidence supporting predicted outcomes positively or negatively. In this mixed-method design, data will be collected to address the effectiveness of improving content knowledge in each of Bloom's content areas to address participant attitudes regarding the effectiveness of online instruction. The data will be analyzed and compared for emerging themes.

A constant comparative model will be used to identify themes within the open-ended questions regarding learning *recommended practice* information using an online format (Patten, 2009). In grounded theory designs, constant comparison allows the researcher a coding method identifying emerging themes in order to establish and define data (Patten, 2009).

A Likert scale will be used to determine qualitative data with regards to attitudes and perception of completing online training. Likert rating scales are a common way to determine client/participant satisfaction. To determine the effectiveness of content knowledge, quantitative data will be collected through pre/posttest questions. These will be reviewed and comparted using demographic information to determine study themes.

Timeline

Time Frame	**Capstone Project Implementation**
November-December 2016	Complete IRB application, create
	cover letter for preliminary survey
December 2016-January 2017	Obtain IRB approval
January 2017	Apply content to dedicated website
February 2017	Select participants for study via snowball
	sampling
March-April 2017	Direct participants to web-site tutorials
April 30, 2017	Drawing for (2) $25 Amazon gift cards
May-August 2017	Analyze data and write Capstone report

Procedures

Phase I: Pre-Study

1.) Obtain IRB approval.

2.) Complete training tutorials and develop website for study.

3.) Provide study cover letter regarding the study and incentive to participate to potential informants assisting in gathering participants via: email and/or hand-delivered and through social media sites, such as, *Facebook and LinkedIn*. The cover letter will be directed to select potential informants, such as, early childhood practitioners, early intervention program directors/staff, pre-school directors/staff, daycare providers, and Catholic Charities-Head Start staff.

4.) Potential participants will be asked to contact researcher by providing an email address. After initial contact by potential participants, they will be provided a detailed description of the study and asked to complete a pre-study questionnaire to determine eligibility (see Appendix 1).

5.) All potential participants who provided an email address will be informed: regardless if they are selected to participate in the study, they will be entered in $25 Amazon gift card drawing at the conclusion of the study.

6.) Up to 20 eligible participants will be directed to the web-based tutorial training site. On the site, participants will be notified "*Your voluntary participation in the completion of these training tutorials constitutes your informed consent to participate in this study. You may withdraw from the study at any time. We do not ask for your name or identifying information, however you will assigned a random code for data analysis*."

7.) Researcher will be available via email or phone to answer questions/concerns arising during the study period.

Phase II: Study

1.) To protect confidentiality, participants will be assigned a four-digit code by the investigator.
2.) The participant will enter their four-digit code each time they enter the website.
3.) Participants will be asked demographic information. This information will include age, gender, race, income, highest education level, and number of children in household under the age of 5.
4.) Participants will complete three training tutorials, including the pre and post study questionnaires within the designated website. (See Appendix 2)
5.) Participants will be given one week to complete the training tutorials (total time commitment @ one hour).
6.) Participants will be informed that upon completion of the three training tutorials, including pre and post study questions (see Appendix 3), they will be eligible for a second $25 Amazon gift card drawing and a certificate of completion with an option to include their name.
7.) Computerized random drawing will select a winner for the two $25 Amazon gift card drawings. Winners will be notified via email and provided a gift card code.

Phase III: Analysis and Findings

1.) Data will be collected and analyzed for themes, attitudes, and perceptions of participants, through Likert rating scales and short answers.
2.) Data will be used to determine if learning occurred, through pre-post study questionnaire.

3.) Findings will be shared via written capstone report.

References:

AOTA (2014). Occupational therapy practice framework: Domain ad Process 3rd edition. *The American Journal of Occupational Therapy 68,* S1-S48. doi:10.5014/ajot.2014.682006

Anne E. Casey Foundation (2012). Stepping up for kids: What government and communities should do to support kinship families. *Kids count policy report*. Baltimore, MD.

Baumgartner, L.M., Lee, M., Birden, S. & Flowers, D. (2003). Adult learning theory. Retrieved from: http://www.calpro-online.org/eric/docs/theory.pdf

Case-Smith, J. (2013). From the Desk of the Guest Editor—Systematic reviews of the effectiveness of interventions used in occupational therapy early childhood services. *American Journal of Occupational Therapy, 67*, 379–382. http://dx.doi.org/10.5014/ajot.2013.007872

Chumley-Jones, H. S., Dobbie, A., & Alford, C. L. (2002). Web-based learning: Sound educational method or hype? A review of the evaluation literature. *Academic medicine, 77*(10), S86-S93.

Creswell J.W. (2014). Research design: *Qualitative, quantitative, and mixed methods approaches* (4th ed.). Thousand Oaks, CA: Sage Publications, Inc.

Division for Early Childhood. (2015). *DEC recommended practices: Enhancing services for young children with disabilities and their families*. (DEC Recommended Practices Monograph Series NO. 1). Los Angeles, CA: Author.

Douglass, A. (2011). Improving family engagement: The organizational context and it's influence on partnering with parents in formal child care settings. *Early Childhood Research and Practice*, Vol. 13 (2). Retrieved from: http://ecrp.uiuc.edu/v13n2/douglass.html

Driscoll, M. P. (2005). *Psychology of learning for instruction* (3rd Ed.). Boston, MA: Pearson Education, Inc.

Duffy, T. M., & Jonassen, D. H. (Eds.). (1992). *Constructivism and the technology of instruction: A conversation*. Psychology Press.

ERIC (2016, Nov. 21). Public law 99-457: *An act to amend the education of the handicapped act to reauthorize the discretionary programs under that act, to authorize an early intervention program under that act for handicapped infants and toddlers and their families, and for other purposes.* S. 2294. 99th Congress. Retrieved from: http://eric.ed.gov/?id=ED314927

Fearing, V. G., Law, M., & Clark, J. (1997). An occupational performance process model: Fostering client and therapist alliances. *Canadian Journal of Occupational Therapy, 64*(1), 7-15.

Green, L., George, M.A., Daniel, M., Frankish, C. J., Herbert, C., Bowie, W., & O'Neill, M. (2003). Appendix C: Guidelines for participatory action research in health promotion. *In Community-Based Participatory Research in Health.* San Fransico, CA: Jossey-Bass Inc.

Henry, D. A., & Lindsay, G. (2016). Empowering stakeholders through data-driven decision making. *SIS Quarterly Practice Connections. 1(4)*, 6–8.

Hollingsworth, H. L., & Lim, C. I. (2015). Instruction via web-based tutorials in early childhood personnel preparation: A mixed-methods study of effectiveness and learner perspectives. *Early Childhood Education Journal, 43*(2), 77-88.

Israel, B. Schultz, A., Parker, E. & Becker, A. (1998). Review of community-based research: Assessing partnership approaches to improve public health. *Annual Review of Public Health (19)* p.173-202.

Ludlow, B. L. (2002). Web-Based Staff Development for Early Intervention Personnel. *Infants & Young Children, 14*(3), 54-64.

Ludlow, B. L., Foshay, J. D., Brannan, S. A., Duff, M. C., & Dennison, K. E. (2002). Updating Knowledge and Skills of Practitioners in Rural Areas: A Web-based Model. *Rural Special Education Quarterly*, *21*(2), 33.

Knowles, M. S. (1970). *The modern practice of adult education* (Vol. 41). New York: New York Association Press.

Mishra, P., & Koehler, M.J. (2006). Technological pedagogical content knowledge: A framework for teacher knowledge. *Teachers College Record, 108*(6), 1017-1054.

Papert, S. (2000). Computers and Computer Cultures. *The Jossey-Bass Reader on Technology and Learning* (pp. 229-246). San Francisco, CA: Jossey-Bass.

Patten, M. L. (2009). *Understanding research methods: An overview of the essentials* (7th Ed.). Glendale, CA: Pyrczak Publishing.

Schaaf, R. (2015). Creating evidence for practice using data-driven decision making. *American Journal of Occupational Therapy, 69*, 6902360010. Retrieved from: http://dx.doi.org/10.5014/ajot.2015.010561

Son, H. K. & Lim, J. (2014). The effect of a web-based education programme (WBEP) on disease severity, quality of life and mothers' self-efficacy in children with atopic dermatitis. *Journal of Advanced Nursing 70*(10), 2326–2338. doi: 10.1111/jan.12389

Wade, S. L., Wolfe, C. R., Brown, T. M., & Pestian, J. P. (2005). Can a web-based family problem-solving intervention work for children with traumatic brain injury? *Rehabilitation Psychology*, *50*(4), 337.

Appendix 1

Seeking 20 Parents and Caregivers

of children ages birth through five who currently or over the past year have received early intervention services.

You are needed and have a chance to win a

$25 amazon.com gift card

As a parent or caregiver of a child receiving early intervention support within the past year, you are invited to participate in an online pilot study entitled ***Investigating the Effectiveness of Web-Based Recommended Practice Tutorials for Caregivers of Children in Early Intervention Programs***. The author is an occupational therapist interested in knowing if using supplementary online training tutorials are effective for parents and caregivers to learn *Recommended Practice* information. This study is part of author's capstone project in a doctoral occupational therapy program.

The three tutorials for this study are:

Parent Coaching in Early Intervention
Establishing Feeding and Mealtime Routines for Young Children
Establishing Bedtime Routines for Young Children

Why is this study being conducted? To determine if web-based tutorials are an effective and convenient way for parents and caregivers to learn early intervention *Recommended Practices*.

Where? Online using a dedicated web-site.

When? March-April 2017

How? Eligible participants will view three online tutorials completing questions before and after each tutorial. Tutorials include video, audio, and written information; questions include use of a simple rating scale and some short answers. In total, this should take approximately one hour to complete. Participants can address questions and concerns to the researcher at any time by email.
After initial contact by email, no personally identifying information will be collected for this study. Voluntary participants will be assigned a code for data collection and analysis purposes only.
If you are interested in the study, you will be asked to complete a pre-study questionnaire to determine eligibility. After answering eligibility questions, you will be directed to the website to begin the study.

Study incentives: All interested participants who provide an email address to Terri L. Beard, MS OTR/L @ terri_beard3@mymail.eku.edu will be entered in a **$25 amazon.com Gift Card drawing**. You do not need to participate in the study to be eligible for the drawing. The drawing will be conducted April 30, 2017. The winner will be notified through the email he or she provided. Your email address is only used as a means to provide study information, a certificate of completion, and notify the winner of the gift card drawing.

Enter for a chance to win by emailing directly to: terri_beard3@mymail.eku.edu with "Recommended Practice Study" in the subject line. Thank-you so much for considering participation in this study!

Appendix 2

Investigating the Effectiveness of Web-Based *Recommended Practice* Tutorials for Caregivers of Children in Early Intervention Programs

Pre-study Participation Questionnaire

1.) Are you an adult age 18 or older? Yes or No

2.) Currently or within the past year, did you have a child aged birth-5 years receiving early intervention services through your local infants and toddlers program? Yes or No

3.) Does or did your child have an Individual Family Service Plan (IFSP) as part of his/her early intervention services? Yes or No

4.) Do you have personal access to the internet via computer, tablet, Smartphone, or other device? Yes or No

   a. If you answered "Yes" to all questions 1-4, answer question 5.

   b. If you answered "No" only to question 4, could you access the internet via the library, through another public Wi-Fi location, or friend/family member's computer/device? If "Yes", answer question 5.

   c. If you answered "No" to any of the above questions, STOP HERE.

Please note: You will still be entered in the $25 Amazon gift card drawing to be held April 30, 2017.

5.) The tutorials and questions are expected to take approximately one hour total; and you may stop and start tutorials at your convenience within the designated one-week study timeline. Are you willing to participate in a pilot study investigating the use of instructional web-based tutorials supporting general recommended practices for caregivers of a qualifying child in an early intervention program? Yes or No

   a. If yes, please begin the study @_____wix.com website.

b. If no, thank you so much for completing this preliminary questionnaire. You will still be entered in the $25 Amazon gift card drawing to be held April 30, 2017.

Appendix 3

Pre-tutorial Questionnaire-Establishing Bedtime Routines

This document is intended to demonstrate a sample of pre and post tutorial outcomes and questions. These are sample objectives for this tutorial. Similar objectives will be addressed in each of the three tutorials included in the study.

Sample Learning Objectives

1. Basic understanding of the importance of a good night's sleep for a young children.
2. The importance of taking charge, setting limits, and being consistent with bedtime expectations.
3. How to establish a bedtime routine.

Please share your thoughts, beliefs, or attitudes by answering the following questions related to *Establishing Bedtime Routines*,	Very Strongly	Strongly	Disagree	Agree	Strongly Agree	Very Strongly
I feel comfortable using the internet for learning.						
I enjoy using the internet for learning.						
I believe web-based tutorials will be convenient for my schedule.						
I feel confident putting my child to sleep.						
I have a good understanding of getting my child to go to sleep and stay asleep.						
I have an established bedtime routine for my child.						

In this section, the investigator will pose three open ended questions which will be customized for each tutorial. Similar, questions will be completed by the participant upon completion of each tutorial.

Example questions: 1) I put my child to bed at: _____

2) My current nightly bedtime routine for my child includes:

_____.

After completing the questionnaire, participants will be directed to "Proceed to the learning tutorial Establishing Bedtime Routines by clicking on "GO". After completing the tutorial, participants will be asked to answer similar questions.