

THESIS

EXPLORING THE APPLICABILITY AND UTILITY OF THE SUBJECT-CENTERED INTEGRATIVE  
LEARNING MODEL IN ACADEMIC EDUCATION

Submitted by

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## ABSTRACT

### EXPLORING THE APPLICABILITY AND UTILITY OF THE SUBJECT-CENTERED INTEGRATIVE LEARNING MODEL IN ACADEMIC EDUCATION

The purpose of this study was to explore the utility of the Subject-Centered Integrative Learning model (SCIL-OT) for occupational therapy educators when crafting occupation-centered learning experiences. The need for centering education on occupation, the core concept of occupational therapy, has been promoted by multiple scholars (e.g. Whiteford and Wilcock, 2001; Yerxa, 1998). However, occupation-centered education has not yet been fully operationalized. The SCIL-OT is a model created to assist educators in centralizing occupation in their teaching, but development has been primarily conceptual (Hooper 2006a; Hooper 2006b). Therefore, there is a need for empirical study of the SCIL-OT.

This basic qualitative study used a theory building approach to confirm or disconfirm elements of the SCIL-OT. Seven graduate level educators participated and were interviewed two times. Audio from the interviews was transcribed and coded through the use of qualitative software. Initial codes were developed from the SCIL-OT elements, and were expanded based upon the data. Themes were developed based on patterns in the codes. Educators in the study used the model to adapt written assignments, practicals, and class discussion in a way in which was interpreted as being occupation-centered. The model was interpreted to be compatible with student-centered values. Overall findings were confirming of the SCIL-OT.

Occupation is the central concept of occupational therapy, and it is essential to emphasize it in education (Yerxa, 1999). Based on the findings from this study, the SCIL-OT has the potential to support educators in developing occupation-centered teaching practices.

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## CHAPTER 1: INTRODUCTION

Occupational therapy is a rapidly growing field. According to 2014 Bureau of Labor Statistics, the occupational therapy job market is estimated to grow at 28% a year over the next several years ([www.bls.gov/ooh/healthcare/occupational-therapists.htm](http://www.bls.gov/ooh/healthcare/occupational-therapists.htm)). With the advent of the Affordable Care Act and the retirement of baby boomers, this growth is likely to continue.

In part to fill this need, more occupational therapy schools open every year (Cusick, Froude, & Bye, 2014). This growth has outpaced the development of faculty members, resulting in a shortage (Mitcham & Gillette, 1999; Murray, Stanley, & Wright, 2014). This is especially problematic because most faculty members who are entering the field do not receive training as educators. As Milton and Shoben (1968) put it “College teaching is probably the only profession in the world for which no specific training is required. The profession of scholarship is rich in prerequisites for entry, but not that of instruction” (p. xvii quoted in Nolinske 1999). Therefore, occupational therapy is faced with an academic workforce shortage and also with many new and experienced faculty members who may not have received formal training on teaching.

This problem is further compounded because, when faculty members do learn about teaching, methods are often drawn from other fields of study. While teaching methods from outside the field are useful, they may not fully meet the needs of occupational therapy education (AOTA, 2014; Hooper, King, Wood, Bilics, & Gupta, 2013). The American Occupational Therapy Association (2014) has called for research to develop occupational therapy-specific education models that help students learn about our distinct value.



One answer to their call has been an educational model for occupational therapy that defines and organizes teaching around the central principles of the field (Mitcham, 2014; Hooper et al., 2014; Hooper, 2006a). Although occupation has been widely recognized by scholars as the central concept and concern of occupational therapy and occupational therapy education, occupation is often implicitly but not explicitly present in curricula. This can cause students to have a fragmented and disjointed understanding of the field and difficulty distinguishing occupational therapy from other professions. The Subject-Centered Integrated Learning model for occupational therapy (SCIL-OT) has been developed as a tool for helping faculty members place occupation at the center of teaching. However, most work to date has been in the conceptual development of the model and its application to faculty development. Studies addressing what Lynham (2002) described as confirmation and disconfirmation of the model are now needed. Therefore, this study explored the usefulness of the SCIL for occupational therapy academic educators. Primary research questions are: How do OT academic educators experience the concepts and transactions of the SCIL-OT? How does the model guide academic educators in designing and implementing occupation-centered learning experiences? What are the limits of the model and what recommendations do academic educators have for its refinement?

To present the results of this review, I will first define occupation. Next, I will describe the benefits of engaging in occupation and the importance of occupation in occupational therapy practice. I will then elaborate on the current calls for occupation-centered education and how this philosophical underpinning can lead to positive outcomes for students and practitioners. I will then critically evaluate the literature to determine barriers to occupation-

centered education, and strategies that are being used in occupational therapy education, as well as other health disciplines, to align curricula with core outcomes. Finally, I will describe the SCIL-OT educational model and highlight the need for more systematic study of this model.

## CHAPTER 2: BACKGROUND

To establish the background for the study, I searched multiple databases using a variety of terms. The following databases were used: CINAHL, PsychInfo, Academic Search Premiere, and MEDLINE. Search terms included were “educational model AND occupational therapy,” “occupational therapy education,” “subject-centered education,” “occupational therapy AND curriculum,” “transformative learning,” and “integrative learning.” Citations in key articles were then used to pursue relevant subtopics in curricular development, student-centered education, and pedagogy. Once I established a familiarity with occupational therapy research on these subjects, the key terms were expanded to include similar research and theory from nursing and other allied health disciplines.

Relevant articles were evaluated through the use of an eleven-stage matrix. Categories in the matrix were: category/topic, empirical or conceptual, definitions or formulated models, reason for paper, phenomenon examined, methodology: data, methodology: analysis, findings, agreement or disagreement with my research, areas where my research might contribute. Results from this analysis presented two major barriers for occupation-centered education: overcrowded curricula and unclear connections to occupation.

### **Definition of Occupation**

Many feel that the distinctiveness of occupational therapy is tied to the concept of occupation (Royeen, 2002; Fisher, 2009). Occupation has been defined as activities that are “self-initiated, goal-directed (even if the goal is fun or pleasure), experiential as well as behavioral, socially valued or recognized, constituted of adaptive skills or repertoires,

organized, essential to the quality of life experienced, and possesses the capacity to influence health” (Yerxa, 1993, p. 5). Occupations can be anything from dressing yourself, caring for a pet or family member, engaging in educational activities, to participating in a leisure activity with a friend (AOTA, 2002). Occupations occur within a context and time frame and are only fully understood by the individual engaging in the occupation (Pierce, 2001; Dickie, 2014). Across the lifespan, occupational participation grows and changes just as the individual grows and changes.

### **Benefits of Occupation**

People are constantly and necessarily doing occupations. Dickie (2014) suggested that occupation is an essential element of being human, and that engaging in occupations is a “biological imperative” (p. 3). Engaging in healthful occupations has been theorized to have a positive effect on mental and physical health, as well as quality of life (Wilcock, 1999; Wilcock, 2007; Hocking, 2014). For example, children who engage in the occupation of play develop fine motor skills and perceptual skills (Tanta & Knox, 2014). Conversely, engaging in an unhealthy occupation like alcohol abuse can cause individuals to lose occupations such as employment and family relationships (Wasmuth, Crabtree, & Scott, 2014). Mary Reilly said it well in her Eleanor Clarke Slagle lecture: “Man, through the use of his hands as they are energized by mind and will, can influence the state of his own health” (1962, p. 92). Reilly’s claims have been confirmed and reinforced by several experiments. For example, in a quantitative study, Dunn et al. (2005) found that engaging in the occupation of aerobic exercise helped alleviate the symptoms of individuals with mild to moderate depression. In this case, as in many others, engaging in a healthy occupation positively impacted mental health and wellness.

## **Importance of Occupation in Occupational Therapy Practice**

Given the importance of engaging in occupations, many scholars have advocated for occupational therapy services to be occupation-centered and to focus on occupational outcomes, meaning helping clients directly engage and re-engage with the activities of their daily lives (Söderback, 2015; Hocking, Jones, & Reed, 2015; Hooper et al., 2015; Gillen, 2014). Occupation-centered refers to a “profession-specific perspective” (Fisher, 2013, p. 163). Many occupational therapists embrace a profession-specific, philosophical viewpoint wherein humans are seen as interrelated individuals who interact with one another and the environment, as they grow and transform through participation in occupation (Hooper & Wood, 2014; Konkola, Pikkarainen, & Törmälä, 2003).

Occupational therapists use this occupation-centered viewpoint to guide practice. Because occupational participation is interpreted in this viewpoint as a method of improving quality of life, occupational therapy interventions are often occupation-based, meaning occupation is the “main ingredient” in treatment (Fisher, 2013, p. 164). For example, occupational therapists may teach a client about self-care through having him or her use the toilet or shower during the session. When interventions are not occupation-based, they are often occupation-focused. In an occupation-focused intervention, occupation is the primary concern and goal, even if it is not being engaged in during the session (Fisher, 2013; Pereira, 2015). Occupational therapists use occupation-based and occupation-focused interventions to help clients engage in occupations.

Occupation-based and occupation-focused interventions have been shown to promote positive outcomes for clients. For example, in a quasi-experimental study, Eklund and

Erlandsson (2014) tested the effect of the Redesigning Daily Occupations (ReDO) program for women who were unable to return to work due to stress-related disorders. The participants in the study were selected because they found both their work and the occupations they did at home to be overwhelming. The ReDO program consisted of three phases for a total of sixteen weeks. Interventions were occupation-focused in that participants analyzed their daily activities and developed strategies and goals for engaging in daily and professional occupations. In the final phase, the participants were given work placements and were provided support in their home lives for occupational performance. Although both the control and experimental groups showed an increase in the concrete and symbolic value of occupation, Eklund and Erlandsson found that individuals who participated in the ReDO program expressed greater improvement in their satisfaction with everyday occupations at home and their participation level increased more than the control group. Because this intervention focused on the occupational lives of the clients, it is consistent with the philosophical core of occupational therapy and illustrates the benefits of occupation-based practice.

### **Occupation as the Center of Occupational Therapy Education**

Considering the importance of occupation in occupational therapy practice, numerous scholars support the idea that occupation should feature prominently in occupational therapy education (e.g. Mitcham, 2014; Nielson, 1998; Pierce, 1999). Proponents of this focus have termed it as “occupation-centered education” (Hooper, 2006a; Hooper, 2010; Whiteford & Wilcock, 2001). Occupation-centered education has been defined by Hooper et al. (2015) as “curricular designs and teaching approaches that explicitly place occupation at the center of all learning” (p. 1). Similar to occupation-centered practice, occupation-centered education

creates what Yerxa (1998) called “a pair of glasses” that guides students in a profession-specific perspective on human needs (p. 366). According to Yerxa (1998), the curricula are vehicles for transmitting values to students. In other words, the occupation-centered practitioners of tomorrow are built out of the occupation-centered education of today.

### **Challenges for Occupation-Centered Education**

While occupation-centered education is a frequently espoused value, it not universally present in occupational therapy education (Hooper et al., 2015; Hooper et al., 2014). Several scholars have suggested reasons for the gap between educational theory and educational practice. The two most prominent challenges are that curricula are overcrowded and occupation is often unclearly linked to course content. In this section, I will address each proposed challenge and outline current strategies for addressing that challenge. Ultimately, I will argue that occupational therapy education needs a guiding model to ensure that the unique nature of our field is not lost.

#### **Overcrowded Curricula**

One challenge to occupation-centered education may in part be attributed to the rapid pace of new research that, when incorporated into academic programs, can lead to overcrowded curricula. The Accreditation Council for Occupational Therapy Education (ACOTE) currently requires programs to cover an extensive list of topics in order to be accredited (AOTA, 2011). Additionally, the literature is replete with proposed additions to occupational therapy curricula. To name a few: Maclean, O'May, and Gill (2014) called for greater emphasis on the impact of alcohol abuse; Best, Miller, and Routhier (2014) advocated for more instruction on manual wheelchair skills; and Smallfield and Anderson (2008) proposed including material on

rural issues and agricultural health. Given the value and importance of these topics and many others, the decision of what to include in curricula is a difficult one.

While some content can and should be incorporated into current programs, adding too much can create a cluttered curriculum rendering connections to the occupation unclear and best and absent at worst. An overcrowded curriculum may not provide adequate time for students to process the material and make connections between classroom content and occupation (Hooper, 2010). Students gain in knowledge, but may be lacking in the conceptual framework necessary to understand how that knowledge can be uniquely applied in the field of occupational therapy.

**Approaches to addressing this issue.** Several scholars have suggested approaches to sifting through overcrowded curricula and focusing education on occupation (e.g. Wood et al., 2000). Whiteford and Wilcock (2001) used the metaphor of sorting “the epistemic cupboard” and “throwing out the ‘odd socks’ and keeping only those that fit well” (p. 82) to describe the need to scrutinize current material in relation to the philosophical tenets of occupational therapy. The first step in creating occupation-centered education is to determine the essential material for an entry-level, generalist education.

***Curricular mapping.*** If the end goal occupation-centered education curricula is determining what should be taught, the first step could be to determine what is currently being taught. This is not an easy task. Curriculum mapping has been suggested as a way to ensure that desired teaching outcomes are aligning with current subjects being taught (Merritt, Blake, McIntyre, & Packer, 2012). This is a method of assembling data and “representing spatially the different components of the curriculum so that the whole picture and the relationships and



connections between the parts of the map are easily seen,” (Harden, 2001, p. 123). In a study by MacNeil and Hand (2014), curriculum mapping was investigated as a method of promoting alignment within an occupational therapy program. In their study, they found that their curriculum sometimes had too much content making it difficult for students to focus on essential content. They also found that curriculum mapping improved the transparency of a curriculum and assisted faculty in examining program alignment, pedagogy, and assessment.

While curriculum mapping is helpful in addressing overcrowding, it is not by itself sufficient to ensure that occupational therapy education is occupation-centered. Curriculum mapping is used in several disciplines, and one could engage in this process without the end goal of centralizing occupation in a curriculum. With the question of what is being taught answered, faculty would still need additional direction for designing courses and implementing teaching classes that are occupation-centered.

***Constructive alignment.*** In determining how to manage overcrowded curricula, it is fruitful to examine what has successfully been done in other disciplines. Many healthcare disciplines face overcrowded curricula (Dalley, Candela, & Benzel-Lindley, 2008). Constructive alignment is an approach that has been used in nursing to align curricula with core outcomes. In constructive alignment education methods, faculty begin with the question: “What do we want the students to be able to do as a result of learning?” (Biggs, 2002, cited in Joseph & Juwah, p. 53). From there, all aspects of the educational process including pedagogy, assessment methods, and curriculum development are changed or modified to be aligned with the central goal of the program (Joseph & Juwah, 2012). In a study by Joseph and Juwah (2012), constructive alignment theory was used to develop an experimental nursing skills curricula. Two

groups of nursing students went through an educational program—a control group educated using a traditional curriculum and an experimental group educated with a constructivist alignment curriculum. The experimental group showed a marked improvement in both confidence and performance.

This study is of particular relevance to occupational therapy education because both occupational therapy and nursing are applied health professions that require strong practice skills and clinical reasoning (Joseph and Juwah, 2012). Constructive alignment processes could provide a possible framework for the process of sifting through courses to determine what content is most essential to enable core outcomes. However, constructive alignment is used by many fields, and the answer to the question of “What do we want the students to be able to do as a result of learning?” is profession-specific. What those core outcomes should be in occupational therapy is not inherently addressed this process. Faculty members need profession-specific direction to ensure that curricula are occupation-centered. The constructive alignment process, as with curriculum mapping, is not in itself sufficient to meet this goal.

***Blueprint model.*** The Blueprint model was developed as an outline of the essential information needed to prepare students for practice (AOTA, 2010). Because this model was created for a generalist practice, it is useful in guiding faculty in determining what content is indispensable for entry-level practice and what content may not be necessary. Faculty members could address overcrowding through ensuring that essential content is adequately addressed before adding content that is specialized.

Unlike curriculum mapping and constructive alignment, the Blueprint Model provides some direction towards occupation-centered education because it emphasizes the importance

of occupational performance. This model has four sections: “(1) person factors, (2) environmental factors, (3) occupation factors, and (4) professional factors” (p. 186). By stressing the importance of these factors, the model identifies information that is consistent with the philosophical tenets of occupational therapy. However, this model is presented in list form, which makes it difficult to operationalize in educational practice to make connections between concepts. Faculty members need more direction for incorporating these factors into curricula. Thus, the Blueprint Model is not sufficient in and of itself, for guiding occupation-centered educational practices.

### **Need for Occupational Therapy-Specific Educational Methods**

Addressing overcrowded curricula is an important step towards improving occupational therapy education. As evidenced above, strategies for aligning curricula or methods for actively engaging students are not by themselves sufficient for guiding faculty members in the development of occupation-centered educational practices. The central concern for addressing overcrowded curricula is *what* faculty are teaching. However, occupation-centered education requires not only a discussion of *what* is being taught but also *how* faculty members teach. It is not enough for students to know the content of an occupational therapy course; they must be able to operationalize their knowledge in profession-specific ways (Esdaile & Roth, 2000). The AOTA (2014) has called for the development of occupational therapy-specific educational practices. Pulling educational methods from other disciplines without adapting them to occupational therapy education may not address the unique needs of the field (Hooper, King, Wood, Bilics, & Gupta, 2013).

**Approaches to addressing this issue.** Several scholars have proposed either adapting educational practices for occupational therapy or developing occupational-therapy specific educational practices. Examples of adapted educational practices from other fields are problem-based learning (Royeen, 1995) and process-oriented guided-inquiry learning (Jaffe, Gibson, and D’Amico, 2015). Examples of educational practices developed by occupational therapist include faculty use therapeutic use of self (Haertl, 2008) and Schaber’s (2014) signature pedagogy. In this section I will describe two promising educational models, one adapted from other disciplines and one crafted as an occupational therapy-specific approach.

***Process-oriented guided-inquiry learning.*** Many scholars have promoted active and constructivist learning techniques as a way of helping occupational therapy students become independent and creative in practice. For example, in a qualitative study, Jaffe, Gibson, and D’Amico (2015) explored process-oriented guided-inquiry learning (POGIL) as an ideal method for occupational therapy education. POGIL is method for balancing active student engagement in the classroom and faculty member facilitation for encouraging the development of critical thinking skills. Learning takes places in three stages: exploring new ideas and comparing these ideas with previously learned knowledge, engaging in knowledge discovery and concept invention through course materials and guided questions, and applying knowledge to relevant situations. In the study of Jaffee, Gibson, and D’Amico (2015), the POGIL was implemented in a semester long course on evidence based practice. Student responses were evaluated each year and, over the course of four years, faculty modified the course and adapted the POGIL method. Many students reported that they felt more engaged in class and enjoyed working with their peers.

This method, like other active learning methods, has the potential to encourage students to be self-directed and collaborative learners. Because occupational therapy must both make independent treatment decisions and collaborate with other professionals, the POGIL may be a good fit for preparing occupational therapy practitioners. However, while the authors claimed that this technique made the class more occupation-focused, no details were provided on how this might be the case. In fact, teaching and learning occupation were only mentioned in one sentence. The assumption that POGIL, when adapted for occupational therapy education, will be occupation-focused is without support. Faculty members need more direction when learning techniques like the POGIL to ensure that classroom discussion and curricula are occupation-centered.

***Signature pedagogy.*** Unlike process-oriented guided-inquiry learning, some scholars such as Schaber (2014) have developed a pedagogical approach specifically for occupational therapy. In a keynote address about occupational therapy education, she asked the question “How does one transfer the belief that engagement in occupation heals and transforms?” (S42). She responded to that question by calling for the identification of an occupational therapy “signature pedagogy” (S41). Schaber’s identified pedagogy is comprised of three elements: “Relational learning, affective learning, and highly contextualized, active engagement” (S42). Relational learning involves faculty members modeling through their relationships with students the empathy and critical reasoning skills needed to be an occupational therapist. Schaber describes affective learning as a process of transformation and change. Hooper (2008) describes this process as “identity formation, which involves helping students form the character, dispositions, beliefs, values, ways of knowing, and ways of seeing that are

characteristic of their chosen profession” (as cited in Schaber, 2014, S42). For occupational therapists, this way of seeing honors how each person has a “self-defining, unique occupation” (S42). The final element of Schaber’s signature pedagogy is highly contextualized, active engagement wherein students learn by engaging in concrete steps of the occupational therapy practice.

Schaber’s (2014) signature pedagogy shows great promise for occupational therapy education. Relational learning, affective learning, and highly contextualized, active engagement have the potential to help students develop the skills and perspectives that are important in practice and are potential steps towards occupation-centered education. However, discussion about how to connect course content to occupation is not explained. A faculty member could potentially engage in the techniques of Schaber’s signature pedagogy without making the connection between course content and occupation. There is still a need for additional direction to ensure that education is occupation-centered.

### **Unclear Connections to Occupation in Teaching**

Much of the research described previously provides useful knowledge for developing occupational therapy education. Unfortunately, the concept of occupational therapy-specific educational practice and occupation-centered education do not equate. Although occupation is discussed in educational programs, the link between course material and occupation is often implicit but not explicit (Hooper, 2010; Hooper et al., 2015). This may occur because definitions of occupation-centered education are often vague. As Hooper (2015) pointed out in a peer-reviewed presentation, “No theory exists that elaborates the phenomenon and dynamics of occupation-centered education” (slide 13). When faced with the decision of how to tie

classroom topics to occupation, many faculty members use personal discretion for how to make connections. This can lead to connections being made haphazardly or inconsistently (Hooper, Greene, & Sample, 2014).

The issue of implicit but not explicit links is compounded because faculty sometimes misconstrue their educational practices to be occupation-centered. In a grounded theory study by Hooper et al. (2014) the researchers found a disparity between faculty members' perceived connection to occupation in teaching and actual practice. Faculty members reported believing that they made explicit connections to occupation in curricula and teaching. However, artifact data suggested that the concept of occupation was often taken for granted and not explicitly linked to classroom content. This study suggested a need exists for educators to have guidance on how to explicitly and carefully connect topics, learning materials, and learning processes to occupation.

**Approaches to addressing this issue.** One option that has been explored for guiding faculty members in occupation-centered education is an educational model that defines and organizes the central principles of the profession (Mitcham, 2014). For occupational therapy, a model is needed to organize course content and develop a profession-specific approach to teaching (Hooper 2010; Hooper, King, Wood, Bilics, & Gupta, 2013).

**Program-specific models.** While there are some models that have been developed, they have been largely program-specific. For example, Wood, Nielson, Humphry, Coppola, Baranek, and Rourke (2000) undertook a three-year project to develop an integrated occupational therapy education program. Through collaboration and reflective educational practices, they defined seven themes of academic development: "(a) occupation, (b) the human as an occupational

being, (c) occupation as a medium of change, (d) clinical reasoning, (e) ethical reasoning, (f) investigative reasoning, and (g) occupational therapists as scholars and change agents in systems," (p. 586). This occupation-centered program is one example of theory building research that is location and program specific. There is a need to expand the research done in program-specific settings to a model that can be applied to multiple programs for the development of occupation-centered educational practices. Many strategies created for explicitly linking course content to occupation have been incorporated into the Subject-Centered Integrative Learning model, which I will describe in depth in the next section.

### **Subject-Centered Integrative Learning Model for Occupational Therapy**

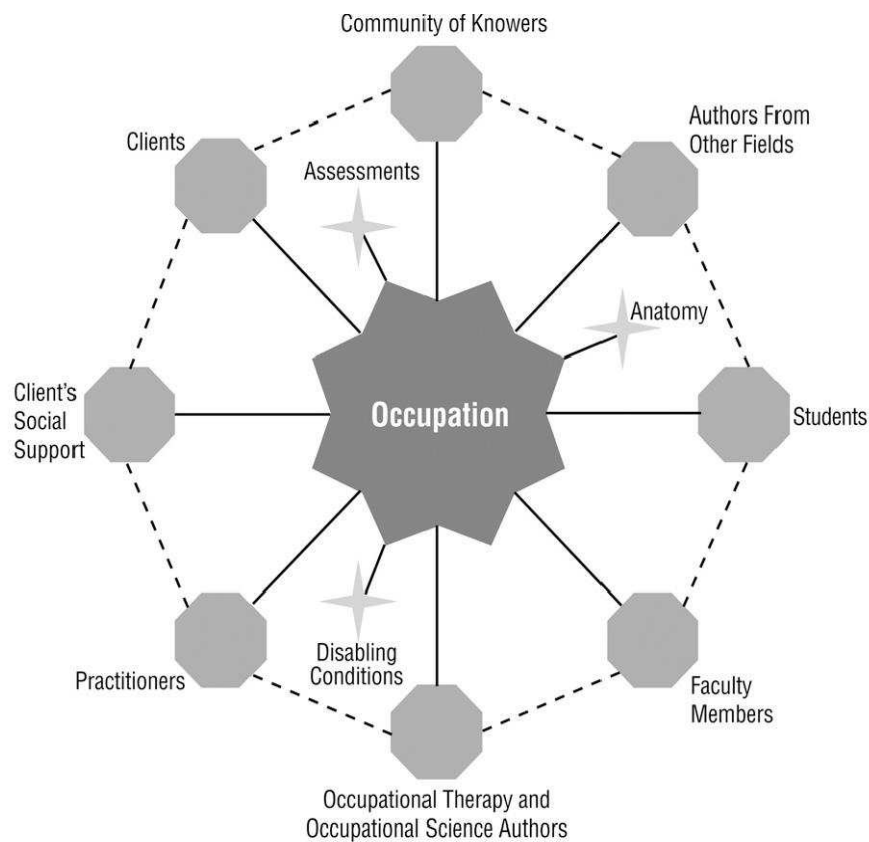
One model that has been proposed to structure occupation-centered education is the Subject-Centered Integrative Learning Model for occupational therapy (SCIL-OT). The SCIL-OT has been developed over several years as a tool for helping faculty members place occupation at the center of teaching (Hooper 2006a; Hooper 2006b; Hooper, 2010; Hooper et al., 2014). The SCIL-OT builds on subject-centered educational theory proposed by Palmer (1998) and expanded and applied to occupational therapy by Hooper (2006a). Elements of the SCIL include the *core subject*, *topics*, *knowledge community*, and the *links*.

The SCIL-OT is meant to have an organizing influence on the links among occupation, topics, and the knowledge community. By incorporating the model when developing curricula, there is less risk that topics will be untethered from the occupation (Hooper, 2010). Application of the model occurs through faculty creating curricula, learning activities, and assignments that help students explicitly make the connection between topics and occupation. In this process, students are responsible for active engagement wherein they contribute to the co-discovery of



knowledge and application of the information to their understanding of and experience with occupation. The core subject acts as an organizing factor for connecting topics to the profession-specific perspective of occupational therapy.

In this section, I will first provide a brief overview of the elements of the SCIL-OT. Next I will expand on the meaning and relevance of each element. I will then discuss how these elements interact to promote learning. I will then describe the importance of integrative learning in the model. Finally, I will provide examples of how using the SCIL-OT can promote occupation-centered education.



*Figure 1. The model of Subject Centered Integrative Learning for Occupational Therapy (SCIL-OT). Hooper, 2015.*

## **Core Subject and Topics**

In subject-centered education, the *core subject* of a field is the primary concern of learning and teaching. For occupational therapy education, the core subject is occupation. Topics are related content that is addressed in curricula but are not occupation. Examples of topics in occupational therapy are neuroscience, splinting, developmental psychology, assistive technology, assessment, or biomechanics. These topics relate to occupation, but they are not exclusive to occupational therapy. Topics are unified by the core subject of occupation, and knowledge of this core subject is necessary for understanding the distinct nature of that field and the application of topics to occupational therapy practice (Hooper et. al, 2014).

## **Knowledge Community**

In the SCIL-OT, the knowledge community members are students, faculty, clients, fieldwork educators, scholars, and individuals from other fields. Members of the knowledge community interact with one another, occupation, and topics in the process of learning with the aim of growing knowledge about and understanding of occupation.

## **Links**

Links are the connections between elements of the model. Links between elements of the SCIL-OT are not automatic, and connections are made through the intentional use of linking strategies by the instructor to tie together these elements. The tenuous link between occupation and topics highlights how explicit connections of classroom topics to core subject is necessary for occupation-centered education (Hooper et al., 2014). In a theoretical piece, Mitcham (2014) suggested that occupation-centered concepts need to be woven into the

curriculum. She recommended that students be encouraged to “think and link” disparate topics to occupation as core (p. 642).

### **Integrative Learning**

The SCIL-OT incorporates principles of integrative learning to emphasize the dynamic way of knowing needed to understand occupation. Hooper (2007) highlighted how teachers can acquire “the distorted assumption is that hearing about something is the same as knowing it” (p. 203). If occupation, as Pierce (2001) suggested, is in fact “a specific individual’s personally constructed, nonrepeatable experience” (p. 139), then students must seek to understand their own occupations in order to understand the occupations of others. When faculty members and students, members of the knowledge community, are linked through integrative learning, each member provides his or her unique insight (Hooper, 2010). This supports an epistemological standpoint of co-created knowledge wherein students actively and personally engage with content (Hooper, 2007, p. 207; Hooper, 2010). In occupation-centered integrative learning, the responsibility for links between topics and occupation is shared.

### **Need and Significance of the Proposed Study**

Scholars have called for education to be occupation-centered, but there is little concrete guidance for faculty members about how to achieve this goal. The Subject-Centered Integrated Learning model for occupational therapy can provide that guidance.

It is important in educational theory be evidence based (AOTA, 2014). Therefore, it is not sufficient for the SCIL-OT to only be philosophically consistent with occupational therapy philosophy. While the model has been in development for many years and has been evaluated and discussed, it has not been systematically studied. Hooper (2015) described the need for

what Lynham (2002) calls confirmation and disconfirmation studies. This type of research would “specifically evaluates the model’s elements and transactions” (Hooper, 2015, slide 18). In this study, the SCIL-OT was applied by faculty members to their current educational practices.

Primary research questions were: 1) How are the concepts and principles of SCIL-OT reflected in academic education? 2) How do academic educators experience the concepts and transactions of SCIL-OT? 3) What are the limits of SCIL-OT, and what recommendations do academic educators have for its refinement? and 4) How does the model guide academic educators in designing and implementing learning experiences?

## CHAPTER 3: METHODS

### **Study Design**

This basic qualitative theory building study was done to evaluate the utility of the Subject-Centered Integrative Learning model for occupational therapy (SCIL-OT) for academic educators in the development of occupation-centered educational practices. A basic qualitative approach was chosen in order to provide a flexible framework in which we could explain an experience or occurrence “in terms of a conceptual, philosophical, or other highly abstract framework or system” (Sandelowski, 2000, p. 336). This approach is appropriate for this study, because we sought to analyze educators’ experiences with SCIL-OT to find recurring patterns or themes. Caelli, Ray, and Mill (2003) explain that basic qualitative research aims to identify “patterns to further delineate the theoretical frame” (p. 3).

### **Theory Building**

Lynham (2002) described theory building as the “ongoing process of producing, confirming, applying and adapting theory” (p.222). Through attention to trustworthiness and continual refinement, a theory developed using theory building research is likely to be kept current and will offer more relevance and utility in practice (Lynham, 2002). Theory building research assists in advancing a field as the purpose is to make “explanations and understanding of how the world is and works explicit and, by so doing, to make transferable, informed knowledge for improved understanding and action in the world tacit rather than implicit” (Lynham, 2002, p. 223).

Lynham (2002) divides theory building into five distinct phases of theorizing to practice: conceptual development, operationalization, confirmation/disconfirmation, application, and ongoing refinement and development. The SCIL-OT has been evaluated in the conceptual development and operationalization stages (Hooper, 2015). Because empirical findings were needed to further develop the model, this study was designed to be a confirmation/disconfirmation study while also elaborating on and exploring the actions and transactions of the elements of the model (Hooper, 2015). The confirmation/disconfirmation phase of theory building research is meant to “purposefully inform and intentionally confirm or disconfirm” basic tenets of a theory or model and is an example of the practice component of theory development (Lynham, 2002, p. 233). As the study progressed, we found there to be significant overlap in our methods with the application phase of theory building, because educators were applying the model in their classrooms. This was not problematic because Lynham (2002) presented the phases of theory development as having overlapping elements.

### **Sampling and Participants**

We used purposive sampling to recruit the most “informative people possible to illuminate the topic of interest” (Kielhofner, 2006, p. 522). Participants were selected based on interest in occupation-centered education and willingness to contribute to the refinement of the SCIL-OT. These participants were invited from a roster of graduate-level educators attending the Center for Occupational Therapy Education (COTE) Teaching and Learning Institute in June 2015 (see Appendix A). One aim of the Institute is to help faculty members teach their students about “the power of occupation to change lives” (<http://www.cote.chhs.colostate.edu/institute.aspx>). I concluded from this that educators who

attended this conference had an interest in incorporating and centralizing occupation in their curricula.

All attendees of the Institute were invited to join the study, and seven agreed to participate. Of the seven that participated, all were full time faculty members. Years of experience as educators ranged from one year to twenty-two, for a total of sixty-eight years of teaching experience (see Table 1). Participants were from several areas of the United States and all taught at different universities. Educators reported teaching Occupational Analysis, Pediatrics, Neuro-rehabilitation, Models of OT Practice, Introduction to Occupational therapy, Pediatric and Adolescent Practice, and Mental Health.

Table 1: *Professional Experience of Participants*

	Sandra	Harmony	Monica	Audrey	Cathy	Maureen	Amy
Level of students	OT Masters	OT Masters	OT Masters	OT Masters	OT Masters	OT Masters	OT Masters
Years as educator	17	1	3	11	4	22	10

### **Data Collection**

Educators participated in two thirty to sixty minute individual or group interviews. The first interviews occurred prior to participants attending the COTE Institute. The final interview happened three to six months after being taught the SCIL-OT.

### **First Phase**

In the first interview, the researchers asked questions about participants' current occupational therapy education practices (see Appendix B). The researchers used open-ended and follow-up questions to explore each group's satisfying and dissatisfying teaching experiences. This interview was done to gather initial impressions about what educators most

valued. Analysis at this stage included frequency counts of the elements of the model most commonly discussed.

## Second Phase

In the second phase of data collection, the researchers presented the SCIL-OT to participants at the COTE Institute. Researchers facilitated a mentored discussion on how the model might be applied to practice. This interview was not recorded.

## Third Phase

Participants then applied the SCIL-OT to their educational practice for three to six months. The researchers then posed interview questions that explored the participants' experience of using the model. Guided discussions explored the model's congruence or lack of congruence with the participants' educational practices. Participants then evaluated the model and suggested changes.

Initially, the final interviews were planned to occur in group format. However, after the first group interview, it became apparent individual interviews would allow participants to share their experience in greater detail. The next interviews were held individually. Table 2 identifies whether educators were interviewed individually or in groups.

Table 2: *Format of Interviews*

Participant	Sandra	Harmony	Monica	Audrey	Cathy	Maureen	Amy
Initial Interview	Group	Group	Group	Group	Group	Group	Group
Final Interview	Individual	Individual	Group	Group	Individual	Group	Group

## Data analysis

Data were analyzed to explore how the model influenced occupational therapy education for the participants to address the following research questions: 1) How are the



concepts and principles of SCIL-OT reflected in academic education? 2) How do academic educators experience the concepts and transactions of SCIL-OT? 3) What are the limits of SCIL-OT, and what recommendations do academic educators have for its refinement? and 4) How does the model guide academic educators in designing and implementing learning experiences?

The audio from the first and third interviews were digitally recorded and transcribed verbatim using a professional transcription service and was uploaded to a secure server to which only the researchers have password access. Transcripts were analyzed between each interview session to explore information gained thus far and to inform subsequent interviews. This process was supported by a qualitative analysis software package.

Transcripts were read line by line, labeling important statements, segments, and text fragments of relevance to the research questions. Coding was done in an inductive and deductive manner wherein an initial use of codes based on the model was used and then modified as appropriate. The process is consistent with common qualitative analysis process of open, axial, and selective coding outlined by Creswell (2013). I then synthesized codes and interpreted initial findings into themes.

### **Deductive Coding**

The deductive process utilized an initial set of codes based off the elements and interactions of the SCIL-OT, and each code had a distinct definition (see Table 3). To develop the codebook, each research member read through sample data and codes were applied until there was consistency among the group. In the process of applying the codes, the text from transcripts was used to expand the definitions of codes to become more representative of the data.

## Inductive Coding

The inductive coding process was used to elaborate on any actions or transactions not being adequately highlighted by the initial codes. This helped the researchers more clearly define and describe the elements of the model along with the experiences and perspectives of the participants (Table 3). See Appendix D for a full list of codes and definitions.

Table 3: *Codes, modifiers, and sub-codes from the data analysis process*

Code	Modifier	Sub-code
Subject	<ul style="list-style-type: none"> <li>• Implicit</li> <li>• Explicit</li> </ul>	n/a
Topics	<ul style="list-style-type: none"> <li>• Clinical</li> <li>• Self-Management</li> <li>• Theory</li> </ul>	n/a
Knowledge Community	Learner-Educator	<ul style="list-style-type: none"> <li>• Cooperative</li> <li>• Mismatched expectations</li> <li>• Modified educational approach</li> </ul>
	Knowledge Community-Broader Knowledge Community	<ul style="list-style-type: none"> <li>• Learner-KC community</li> <li>• Seeking community members as resources</li> </ul>
	Learner	<ul style="list-style-type: none"> <li>• Positive behavior</li> <li>• Negative behavior</li> <li>• Age-development state</li> <li>• Life circumstances</li> </ul>
	Educator	<ul style="list-style-type: none"> <li>• Frustration</li> <li>• Gratification</li> <li>• Expectations of student</li> <li>• Perception of student expectations</li> <li>• Perceptions of self</li> <li>• Perceptions of educator role</li> <li>• Road-block to engagement</li> </ul>
Links	<ul style="list-style-type: none"> <li>• Topic – Knowledge Community</li> <li>• Topic – Subject</li> <li>• Topic-Context</li> <li>• Knowledge Community-Context</li> </ul>	n/a

Context	<ul style="list-style-type: none"> <li>• Practice Setting</li> <li>• Point in Program</li> </ul>	n/a
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### **Confirmation and Disconfirmation**

The purpose of the study was to confirm the overall model, the elements of the model, and the transactions between these elements. Confirmation was determined in multiple ways. Of primary emphasis was whether the model was useful for academic educators and was applicable to their practice. Additionally, confirmation was found or not found based on the prevalence of the elements of the model in participant's studies, as well as the subjective value participants ascribed to these elements.

### **Trustworthiness**

A combination of peer debriefing, member checking, and reflection were used to ensure rigor of this study (Kielhofner, 2006; Creswell, 2013; Caelli, Ray, & Mill, 2003). Kielhofner explained peer debriefing as "multiple investigators simultaneously but independently engaging in the analytic process" (p. 353). Alongside this research, two additional studies were exploring the experiences of fieldwork educators and academic educators when using the SCIL-OT in their teaching interactions. Peer debriefing occurred weekly when student researchers from each study came together to ensure methodology was consistent among the three projects. This was most emphasized when developing the initial codes for the data analysis process. To ensure the initial codes were being applied consistently, all three student researchers read sample data and codes were applied until there was consensus.

Throughout the interview sessions, the researchers reflected upon what had been said to ensure the information was accurately understood, which was a form of member checking (Creswell, 2013). This took place to ensure participant feedback was taken and applied in a way

that corresponded with the true nature of their recommendations. I maintained a research journal through the research process to assist in analysis and reflection.

## CHAPTER 4: FINDINGS

Findings from this study strongly confirmed the usefulness of the SCIL-OT for academic educators. In the initial interview, educators reported strongly valuing the knowledge community, especially the student-faculty relationship. This was interpreted to be confirming of the knowledge community element. After learning the model, educators reported valuing subject and the relationship between knowledge community, topic, and subject, which was interpreted to be confirming of all elements of the model and the relationships between these elements.

The utility and applicability of the model was determined to be confirmed when educators reported concrete examples of using the model to develop or modify assignments to emphasize occupation. Participants also reported some limitations of the model and recommendations for revision, but all reported overall satisfaction with the utility of the model.

In this section, will first explain how the codes for elements of the model were applied to the data. I will then describe themes from initial interviews and later interviews and how educators' description of meaning in the initial and final interviews were seen as confirming the SCIL-OT. Next, I will outline the ways educators used the SCIL-OT to create occupation-centered learning experiences and the actions and transactions of the model's elements. Finally, I will discuss the challenges and limitations of the model reported by participants, as well as recommendations for change.

## **Coding Elements of the Model**

### **Subject**

The core subject in the SCIL-OT model refers to the central concern of the profession, in this case, occupation. Statements in transcripts were coded as “subject” when educators referenced occupation. The code, subject, was divided into sub-codes: explicit, when the actual word ‘occupation’ was used, and implicit, when occupation was implied but the word occupation was not directly used. For example, because the following quote addresses occupation directly, it was coded Subject-Explicit:

“We just really shifted it and said let’s focus on that occupation, focus on the process of it. There is a procedure, yes, that you have to do but don’t worry, don’t stress about the procedure so much, about that component but focus on the process and how it impacts their occupational performance.”

In contrast, when an educator reported discussing how being in a wheelchair affects how clients “dress for winter” this was coded as an implicit reference to subject, because dressing is considered an occupation in occupational therapy.

### **Topics**

Topics in the SCIL-OT refer to matters covered in class that are related to the core subject but not profession or practice setting specific. Data were coded as “topic” when educators talked about teaching a content area that may have been related to, but not clearly identifiable as occupation. Participants discussed a wide range of topics (Table 10). including clinical reasoning, anatomy and physiology, Bloom’s Taxonomy, and the Model of Human Occupation.

*Table 1: Examples of text coded as topics*

Manual muscle testing	Therapeutic Use of Self	Pediatrics	Grant writing
Gerontology	Group dynamics	Acute care	Cardiac surgery
Qualitative research	Medical conditions	Neuroscience	Splinting

Topics were universally represented in participants' stories in ways consistent with their representation in SCIL-OT; a finding that was interpreted as confirming the topics element of the model.

### **Knowledge Community**

The knowledge community in the SCIL-OT model refers to individuals or groups who contribute knowledge about the core subject, whether generally as in researchers who study it or specifically as in occupation in a client's life. The knowledge community can include students, faculty, clients, authors from occupational therapy or other fields, and others. Authors are present in the knowledge community through media like articles in scholarly journals or online videos. The knowledge community was prevalent in all participants' stories, which I interpreted as confirming of the knowledge community element of the model. The knowledge community code was used for statements where educators referred to relationships or actions between individuals or groups, such as the educator and students. Initially, sub-codes were 'faculty,' 'students,' and 'broader knowledge community.'

As the interactions between members of the knowledge community were not being fully captured by only using a "student," "faculty," and "knowledge community" codes, I developed sub-codes that elaborated on the dynamics of the relationships between members of the knowledge community, including actions and transactions and meaning and priority (see Appendix D). For example, when educators expressed dissatisfaction with learner performance

or outcomes, this text was coded under the parent code knowledge community as “frustration.” Satisfaction with student performance and engagement was coded as “gratification.” These sub-codes helped tease apart the dynamics inherent in the faculty-student relationship. By developing a list of sub-codes, I was able to analyze in-depth how interactions between members of the knowledge community occurred.

## **Links**

Links in the SCIL-OT refer to intentional connections between elements of the model. This term was coded broadly when educators referred to any interaction between: subject, topic, and knowledge community. For example, instructional processes aimed to create links between knowledge community members, between knowledge community members and topic or subject, or to teach students the relationship between subject to topic. When participants discussed their educational strategies, this text was coded as ‘instructional professes’ referring to formal and informal educational approaches, including assessment of learning and assessment of perceived learning.

## **Themes Related to Meaning**

In a discussion of meaning within the field of occupational therapy Eakman (2015) stated, “meaningful has often reflected valued, personally relevant, and subjectively positive experiences associated with activity or occupation” (314). I interpreted data where educators discussed what they valued, found relevant and positive about teaching through the lens of Eakman’s (2015) framework, as indicating what participants found meaningful in teaching as evidence of confirming of the model. Initial stories focused overwhelmingly on knowledge



community interactions, especially the student-faculty relationship. This confirmed the importance of the knowledge community element.

Despite frequently referencing knowledge community relationships, participants did not reference all elements of the model in the initial interview. Occupation, the subject of occupational therapy, was only mentioned by two of the seven participants. As emphasizing occupation in education has been established as a priority in the field, the limited references to occupation were interpreted to be confirming of the need for the model (Yerxa, 1998).

### **Knowledge Community Connections are Essential for Meaningful Teaching**

In the initial interview, educators were primarily focused on knowledge community relationships. Educators expressed that meaningful and satisfying experiences in teaching resulted from the connectedness of student-faculty relationship. Valued and subjectively positive experiences related to the quality of student engagement, co-authorship, and co-learning..

**Student engagement.** In early interviews, educator satisfaction with teaching hinged on the degree to which students were engaged or disengaged in the classroom. Disengagement took several forms. Audrey described students having “glazed over eyes” and looking at their cellphones. Similarly, Monica described a frustrating experience in which she asked the students to synthesize material and the students’ had no response: “It’s just blank. I have a blank stare.” In both these cases, educators found students lack of engagement dissatisfying.

Lack of engagement also occurred through students expecting to be spoon fed answers. One educator described how students sometimes wanted to be given the right answer without having to form their own opinions. She stated, “The students will sometimes come back and say

that you're not doing your job, or you're supposed to be telling me how to think." In doing so, students were being unwilling to offer reciprocity in the classroom and still expected information to come through transmission from an expert. In this case, members of the knowledge community (students) were refusing to contribute knowledge about the core subject or topics, and this damaged the knowledge community relationship between students and educator.

Positive examples of engagement include students being passionate about the material. Speaking of that passion, Sally stated described student behaviors: "They're electric. They're excited about it." Because she experienced the students' engagement as a subjectively positive experience, student engagement was interpreted to be meaningful. Another educator described engagement as causing the students and educator to feel "connected" to one another. The quality of connection to members of the knowledge community was important to her.

**Shared authority and co-learning.** Most effective and satisfying knowledge community relationships were made through what one educator called "shared authority." Shared authority has been defined by Ndejuru (2009) as "solidarity, deep listening, and sharing each other's load" (p. 11). In the context of education, this translates into shared goals, empathetic relationships, and mutual responsibility for learning. In this study, shared authority was often accomplished through explicit communication about expectations. One educator stated, "I try to make it really explicit in terms of 'this is what my contribution is and this is also your expected contribution.' And the fact that they've made those contributions and helped identify the priorities really seems to energize them." In clarifying expectations, this educator was also

communicating to students how much she values their contributions. Clarifying expectations, then, functioned to strengthen the relationship and reciprocity of the student-faculty relationship within the knowledge community.

Many participants found that shared authority helped them not feel as if they had to inhabit the expert role. As one educator put it, “There’s no way I’m going to know everything or have had experience with every single topic that I need to teach within the program.” In leaving behind the expert role, participants reported becoming co-learners with the students. One educator stated, “So there are areas, and I’m more comfortable now with saying, you know what, that’s not my area but I understand we need to talk about it. What are you going to do in that situation?” By leaving the expert role, both participants were able to actively become co-learners with students. Because shared authority helped educators facilitate improved understanding of knowledge community relationships, I interpreted this concept to be personally relevant, and thus meaningful to participants.

Being a co-learner required educators to trust that students were going to be active learners. As one participant shared having told her students, “I trust that you are going to be a strong co-learner and by doing that I’m not abdicating my responsibility as an educator.” Some participants reported that students were supportive of this framework. One participant shared, “It was getting feedback from students that led me to realize, you know what, I don’t have to be the person who has it all. I’m not going to be there with them always.” By trusting the students to contribute their knowledge in the classroom, this educator was able to engage in learning alongside the students. Further, she valued the students learning to think independently and found their contributions to be meaningful.

**Subject and topic largely omitted.** Although educators focused heavily on the knowledge community element, subject was infrequently referenced. One educator described feeling satisfied because she was able to, “teach the content related to occupation.” Another educator mentioned a lab station on “upper extremity dressing with sternal precautions.” There were no other references to occupation in the initial interview, which was interpreted as confirming of the need of the model.

**Summary.** In early interviews expressed caring deeply about the quality of connection between themselves and students. Because occupation was mentioned infrequently, it is reasonable to assume that the concepts and experiences educators found most meaningful were related more to the SCIL-OT’s element, knowledge community, than to the elements subject or topic.

### **Centralizing Subject Helps Educators Connect to Personal and Professional Values**

While subject was infrequently mentioned in early interviews, educators strongly emphasized this element in the final educators. This increased prevalence was interpreted to be confirming of the element subject in the model. Multiple educators reported that, not only was the SCIL-OT useful for developing occupation-centered learning experiences, and their experiences of using the model to focus on occupation was a source of meaning for their teaching. Centralizing occupation was found to be meaningful in this study because educators reported positive subjective experiences when using the model, the model connected them to their values, supported their goals in teaching, and was useful for accomplishing teaching goals. This meaning occurred through greater connection to occupation and a strengthened connection with students. Because the subject element of the model and the relationship

between subject and knowledge community and subject and topic were valued, the elements of the model and their relationships were confirmed.

**Positive subjective experience.** Several educators described positive subjective experiences using the model. Monica reported, “It has made such a difference, and I have loved it!” She described the “aha OT moment” that occurred for her when she realized that one of her assignments was not occupation-centered and made changes based on that realization. By connecting her teaching to occupation, she reported experiencing enhanced meaning in her educational practices.

**Connection to personal values.** Interestingly, some educators spoke about how using the model helped them align their teaching with their personal values. Sandra recounted how she found the model to be useful, “It let me talk about my true love, and that was the occupational world that we're in and it let me come at it from a more energetic way.” She discussed the personal meaning she associated with occupation and expressed excitement about teaching this concept in class.

**Clarification of the educator role.** Another educator discussed how using the model helped her clarify her understanding of her role as an occupational therapy educator. Harmony stated that the SCIL-OT “really helped situate my understanding of not just the profession but how we are supposed to teach the profession.” In this case, using the model helped Harmony build on her professional identity as an educator, and was useful and meaningful for accomplishing the goals of this educator. This was interpreted to be confirming of the utility and applicability of the model for educators.

## **Knowledge Community Relationships Important Despite Subject Focus**

As in earlier interviews, educators continued to report valuing shared authority and trust in the student-faculty relationship. Many saw it as essential in occupation-centered learning. Many assignments that were meant to focus on occupation also involved connecting knowledge community members to one another. One educator described an occupation-centered framework for an assignment in which she supervised the student-client interactions. One of the clients had initially been “sarcastic” and uncooperative. When this educator encouraged the students to focus on the client’s occupation, their relationship with the client improved. The educator stated, “[The client] refused to leave the last day, and I think it was really because we made [the students] shift their focus on that occupation. And we helped facilitate the students thinking about what is most meaningful and purposeful to her.” This educator felt that when the students emphasized occupation, they were able to connect to the client’s goals and priorities, which strengthened the knowledge community relationship. This was interpreted as confirming the knowledge community-subject link.

## **Summary**

In early interviews, educators described meaning as primarily arising from the nature of the student-faculty relationship. This confirmed the importance of the knowledge community. After learning the SCIL-OT, educators described meaning primarily related to teaching occupation, while knowledge community connections were valued but secondary. This was interpreted to be confirming of the SCIL-OT element subject and the transactions between elements of the model.

## **Use of the SCIL-OT to Design Occupation-centered Learning**

Educators reported finding the model useful for creating and implementing occupation-centered learning experiences in their classroom. Educators altered classroom discussion, created or modified written assignments and practical examinations, and reorganized curricula to focus learning more explicitly on occupation. The utility of the model was interpreted to be strongly confirming of the SCIL-OT. In this section, I will detail a few examples of educators' modifications of teaching to be more occupation-centered. First I will describe how an educator structured classroom discussion in a way that she felt was occupation-centered by exploring the occupations of individuals. Next, I will describe a case study wherein the students were asked to develop an empathetic relationship with a family in order to understand the importance of occupation. Finally, I will describe how an educator redesigned a practical examination so that students made the connection between a topic and occupation.

### **Classroom Discussion**

Several educators described modifying or structuring classroom discussion based on the model to more emphasize occupation in teaching. Harmony described bringing in a picture of the SCIL-OT and teaching it to her class at the beginning of the semester for a Theory and Foundations course. She then returned to the SCIL-OT throughout the course. Harmony reported that several students stated in course evaluations that "Seeing that visual model helped them, again, identify as an early OT professional and to sort of situate their learning and their thinking about things." For students who had not expected occupation to be the center of occupational therapy, the model served as a discussion aide for the scope of practice and goals of the practice.

After teaching the students the SCIL-OT early in the course, Harmony then started each class with a “person of the day.” This provided students with a context for understanding and applying the topics of the day by tethering them to the individual.

“Every day, we had a person that we would go back to and then we would relate the topic back to the person. And so I don’t know if that’s subject centered, but at least that class was sort of person centered, and then it was an easier, I think, transition if you’re thinking about the person to bridge with an occupation.”

Harmony described how she would draw the model on the white board and have students identify what topics they had learned in her class and other classes like cranial nerves, anatomy, or theory. They would then connect these topics to the occupations of the person of the day.

**Elements of the SCIL-OT.** In Harmony’s stories, knowledge community members were students, the educator, and the individual(s) the “person of the day” was based on. Harmony links the students and a member of the broader knowledge community by introducing the person of the day. Through the person of the day, she created a strong link from that member of the knowledge community and occupation by identifying the occupations of importance to the “person.” She subsequently created links between learning topics to an occupation. She felt that discussing occupation in a generalized way without connecting it to a person made it difficult for students to understand the importance of occupation.

When Harmony integrated topics taught from different classes into a discussion of the person of the day’s occupation, she highlighted how topics can help clarify and deepen students’ understanding of occupation. For example, learning about cranial nerves could help students understand the occupational challenges of an individual with a traumatic brain injury.



Based on her story, linking topics to occupation within the context of a member of the knowledge community supports a deeper understanding of occupation.

### **Case Study**

Sandra described modifying a case study to focus more explicitly on occupation. She had been teaching a class on Occupational Analysis that felt scattered and a “catch-all” for material that did not fit in other classes. Sandra stated that learning the SCIL-OT “hit at an ideal time because I was looking for this unifying theme.” After learning the model, Sandra now uses a multi-step, multi-day case study that uses a personal way of knowing to connect to the occupations of clients. One of the case studies involved an older couple with three adult children where the husband has recently been diagnosed with Parkinson’s Disease. Because the husband is experiencing increasing physical and cognitive decline, the parents are in the process of making long-term plans. After reading the case study, the students are asked to write a letter from the parent’s perspective to inform the children that they are selling their childhood home. The students are then given several contextual pieces of information that the mother in the case study has: newspaper clippings about selling your home, an internet article about curing Parkinson’s, and an e-mail from one of the daughters complaining about her sister. The students are asked to evaluate this information and discuss how this may be affecting the mother’s decisions. Students go into the community and talk to realtors and look for homes that are for sale and leasing agents from senior care apartments. Finally, the students are asked to assume the role of occupational therapist and assist the family in planning for the future and making home modifications. Students are tasked with considering the eight areas of occupation (activities of daily living, instrumental activities of daily living,

sleep and rest, education, work, leisure, play, and social participation) and how home modifications might facilitate participation in these occupations (AOTA, 2014).

Following changes in the class discussion and in this assignment, Sandra reported feeling like students were changing in their ability to connect topics to occupation.

“What I can see differently is that the students, when they're done, are better able to say things like if they're addressing endurance issues, standing endurance issues, they're more quickly able to come up with occupational tasks or relevance to that, endurance issues.”

Sandra described the benefit of occupation-focused teaching practices as extending beyond one conversation or an assignment to change the way the students think about occupation and occupational therapy practice.

**Elements of the SCIL-OT.** Occupation is discussed in Sandra's story in terms of the important occupations of an older adult couple. Topics include health management (managing the father's deteriorating condition), home modifications, evaluating information sources, and family dynamics. Knowledge community members are the student, the parents, the children, authors of articles, and real estate and leasing agents. The assignment forges personal connections between each student and the family by having the students inhabit the parent role through the letter-writing exercise. In this way, members of the knowledge community are being connected. In doing so, the student is being asked to develop their empathy skills and understand the ways one individual's diagnosis affects the client, his family, and his community.

Connections between knowledge community members are further strengthened by considering the relevant occupations to the parents, and involving members of the broader

knowledge community who support those occupations in some way. Additionally, the students are asked to connect topics to subject by seeing how things like family dynamics influence and inform how the parent's perform occupation such as health management. Finally, the students step back and take all of these elements into consideration as they inhabit the occupational therapist role (a different role within the knowledge community) and make home modification recommendations.

### **Practical Examination**

Monica reported changing a practical exam on manual muscle testing, a technique that involves occupational therapists testing the strength and range of motion of a client's upper body. While being able to document changes in strength through manual muscle testing and understanding anatomy is important in some settings, Monica felt the practical did not adequately address the connection from testing or anatomy to occupation. The previous practical involved students performing a manual muscle test on a person and then applying the results to an individual's occupational performance. The students then had to discuss the occupational challenges someone might experience given their strength or range of motion difficulties. Monica and her co-teacher made a few changes to focus on occupation. They reversed the order of tasks in the practical so that students were first given an occupation to consider and then a movement and were asked to describe how this movement could affect an occupation. Monica described this order reversal as a way of highlighting that the occupation is prioritized, so that "occupation is at the center of it versus the movement is the most important. We shifted it to where the occupation is going to be the most important piece." She

saw this subtle shift as helping the students reorient their gaze to see the centrality of occupation.

Monica made other changes to have the assignment focus more on occupation. This occurred through modifying the rubric to have more occupation-focused outcomes and emphasizing occupation in instruction.

“We redid the grading rubric to focus on occupation. And the way I taught it, I started with [an OT as an] occupation expert, and then indicated that manual muscle is one assessment out of many that they may choose to use, but it all relates back to the client’s occupation.”

By explicitly connecting this assignment to occupation, Monica made changes that were consistent with the SCIL-OT.

Interestingly, Monica found that the students were not only more occupation-centered following the changes in this assignment; they also appeared to exhibit less signs of stress.

“We just finished with our practicals and this is the first time – I mean both Erin and I felt the anxiety level was much less for the students and it just seemed to flow and we just didn’t have that high stress and high anxiety about it and just being able to rewrite and focus it back to occupation.”

Monica thought that perhaps the contextual knowledge helped students connect all of the detailed memorizations of movements and anatomy to occupation so they understand the purpose of the assignment.

**Elements of SCIL-OT.** Topics in this story are manual muscle testing and anatomy. Initially the assignment began with the topics, which the students then had to apply to an

occupation. This gave them a narrow view of the assessment process in occupational therapy and centered learning around understanding a specific technique.

By changing the assignment to begin with occupational analysis, Monica made a minor shift which contextualized manual muscle testing as a small aspect of a person's occupational performance. Monica's assignment facilitated students being able to explicitly connect the topic of manual muscle testing to the core subject, an occupation of a hypothetical client. Additionally, by having the students consider the occupations of a hypothetical client, Monica also helped students build a connection between themselves as a knowledge community members and the client as the broader knowledge community.

### **Summary**

Educators reported that the model was useful for creating or modifying assignments to focus explicitly on occupation. They applied the model to written work, demonstration, and discussion. When using the model to be occupation-centered, educators facilitated students in personally connecting with occupation. They also helped students understand the relationship between topic and subject.

### **Reported Challenges and Recommended Modifications**

While all participants found the model to be useful, there were some situations in which educators reported difficulty using the model or suggested changes. Challenges related to using the model in content heavy or interdisciplinary courses, and student discomfort with the word "subject." Recommended changes were to clarify the topic/subject relationship and make the model look more dynamic.

### **Challenges with Content-Heavy Courses**

Audrey reported liking the model but had difficulty implementing it in her Basic Concepts and Occupations course. This is an introductory course taught in an auditorium to sixty seventeen-year-old students. Audrey reported liking the SCIL-OT and tried to take a constructivist perspective as an instructor while creating a personal connection with students, but this is challenging given the number of students in one class and the volume of material she needs to cover. Audrey described being occupation-centered before and built on her previous practice by focusing classroom discussion on occupation and “redesigning a lot of the [quiz] questions to be less about well what does this concept mean to rather how do you apply this concept to somebody engaged in occupation? So a little bit more of mini case studies.” These changes are significant; however, Audrey expressed feeling frustrated with time constraints and course management concerns that have made it difficult to make big changes based on the SCIL-OT.

### **Challenges with Interdisciplinary Courses**

Monica described having added difficulty implementing the model during interdisciplinary courses. She teaches classes that have OT and PT students and these two disciplines have overlapping topics, but different core subjects. She stated that using the model has been difficult in this setting. During a shared interview, another educator suggested having a seminar or break out session in interdisciplinary courses to help students make connections from topics to subject and Monica expressed being interested in trying out something similar.

## **Challenges with the Word ‘Subject’**

Harmony actually used the SCIL-OT to orient students to the purpose of her course. She described how students sometimes had difficulty with the term “subject” in the SCIL-OT because subject is commonly used in academic language to refer to a class, the topic of the day, an area of study, a person who is studied, or the noun in a sentence. Students would ask if subject was the topic of the day or the course of study. Other students wanted to know why there was no line between topic and the knowledge community because knowledge community members have the knowledge about topics but may not have an occupational focus, especially if the knowledge community members are from an outside field. They felt the model did not represent the connection or contribution of these knowledge community members.

## **Clarify Topic/Subject Relationship**

Cathy suggested that it could be useful for the graphic to be changed to make the relationship between topics and subject clearer and for the importance of subject in the knowledge community to be clearer.

“Sometimes I almost wonder if the occupation in the middle needs to be bigger, so it's underneath the stuff, so that way I realize that the topics need to be embedded in the occupation and that the points of the stars need to touch the community of knowers so that you can see the occupation touches all of these community of knowers.”

Cathy’s perspective highlights how she sees topics to be part of occupation instead of separate content. Likewise, Amy felt that there are times when the topics have to be bigger based on the

individual course or point in a program, which she interpreted not as a flaw in the model, but a modification she had made to expand its usefulness.

### **Make the Model Less Static**

Sandra felt that the lines of the model were too static to fully reflect the actual process of teaching and learning.

“It needs to look more dynamic, I think, and circular and loop-like, especially since reflection is such a key element to being a good practitioner, to being a good educator, to being a thoughtful student. It’s that ability ... [to] really guide them through that process which links the past and the present and the future and then go back and talk about it and try it again.”

This way of discussing learning as continually developing and student identity as being in a process of transformation is consistent with the underlying theory of occupational therapy.

Sandra felt the model should more clearly reflect this.

### **Summary**

Overall results from this study confirmed the utility of the model for occupational therapy educators. Educators were interpreted to display a shift in meaning from focusing on the student-faculty relationship to focusing on occupation-centered teaching. Educators reported that the model was useful for centering occupation in teaching in the classroom.



## CHAPTER 5: DISCUSSION

Study findings on the utility, prevalence, and value of elements of the model strongly support the confirmation of the SCIL-OT model for academic educators. Educators reported that the SCIL-OT was useful for creating occupation-centered learning experiences. Educators applied the model to change several elements of teaching, including written assignments, class discussion, and practical examinations. In early interviews, the meaning of teaching was seen to primarily arise from the student-faculty relationship, which suggests valuing student-centered learning. In later interviews, the meaning of teaching was more often described as occurring through focusing on occupation, which suggests values for subject-centered learning. Ultimately, the model was found to be useful for subject-centered learning and compatible with student-centered learning principles. Study findings demonstrate the benefits of subject-centered learning theory to guide occupational therapy education.

In this section, I will first discuss the early interviews' emphasis on what I interpret to be student-centered learning. I will then elaborate on the benefits and drawbacks of student-centered learning. Next, I will contrast student- and subject-centered learning and describe the benefits of subject-centered learning. Following this contrast, I will highlight how educators used the model to center learning on the core subject of occupational therapy. I will then elaborate on limitations of the model based on participant feedback and my own analysis, and discuss proposed changes. Finally, I will discuss the implications of this study and future directions of research.

## **Student-Centered Learning Facilitates the Educator-Student Relationship**

In early interviews, educators primarily focused on the quality of student-faculty relationship as a source of meaning. They reported caring about student engagement, as well as shared authority and co-learning with students. Due to the student-faculty relationship being in the foreground and characterized by active engagement and sharing of power, early interviews reported instructional techniques that can be classified as student-centered learning.

Student-centered learning has been described as an approach in which students are active in learning and have shared authority in directing courses, and their ideas and priorities are important (Schroeder, 2012; Barr & Tagg, 1995). Shared authority provides space for students to generate creative ideas or develop innovative solutions not anticipated by the educator (Vettraino, Linds, & Goulet, 2013). This makes the classroom a fertile environment in which both student and educator are learning about content.

There are specific techniques associated with a student-centered learning approach. Felder and Brent (1996) stated student-centered techniques include “substituting active learning for lectures, holding students responsible for their learning, and using self-paced and/or cooperative (team-based) learning” (p. 43). This type of learning is thought to improve student motivation and retention of knowledge (Schroeder, 2012).

While it is clear that student-centered learning has value, it is also important to note that student-centered learning has been interpreted to mean widely different ideas (Tangney, 2013). Some define student-centered learning narrowly as active learning (Armbruster, Patel, Johnson, & Weiss, 2009). In an investigation of active learning, Allen & Baughman (2016), found

that students taught with active learning techniques (hands-on demonstration, research participation, and working with real data) in a research methods class reported improved retention of material and confidence in their ability to apply concepts from class, although not greater satisfaction with learning.

Others see student-centered learning as a way of promoting self-actualization by allowing students to structure class and determine their own learning goals with the role of the educator as facilitator (Rogers, 1969; Talbot, 2009). This definition was championed by Rogers (1969) and included the concept of non-directiveness wherein students are more responsible than the educator for the direction of learning and the educator permits “individuals to go charging off in new directions dictated by their own interests” (p. 105). Blackie, Case, and Jawitz (2010) elaborate on the Rogerian definition of student-centered asserting that many student-centered learning approaches have lost Roger’s (1969) emphasis on developing the student as learner as the primary goal of learning, with actual information learned as secondary. This would seem to be a valid critique of authors like Armbruster, Patel, Johnson, and Weiss (2009) who appear to have conflated active learning and student-centered learning.

Given this range of definitions, it becomes difficult to pin down the exact merits of student-centered learning. Nonetheless, all interpretations highlight how student-centered learning is effective for encouraging students to be active and independent learners (Barr & Tagg, 1995).

### **Student-Centered Learning in Occupational Therapy**

In this study, participants’ value for student-centered learning is consistent with the common use of educational approaches that could be classified as student-centered learning in

occupational therapy education (Hooper, King, Wood, Bilics, & Gupta, 2013). One example is the wide adoption of problem-based learning (PBL). In PBL, students are organized into small groups and given a case study to work on. Students analyze the case, identify problems, look for solutions in a self- and peer-directed way, and then reflect on the learning process (Royeen, 1995). This is considered student-centered learning because the learning process is directed by student inquiry and characterized by active engagement (Scaffa and Wooster, 2004). Studies on the benefit of PBL have found this technique to benefit occupational therapy students' self-perception of learning and clinical reasoning development (Scaffa and Wooster, 2004; Spalding & Killett, 2010). As demonstrated by studies on PBL, student-centered learning techniques have value in occupational therapy education.

Student-centered learning is also valuable in occupational therapy education because it parallels client-centered occupational therapy practice (Disch, 2012; Haertl, 2008). Client-centered has been defined as an approach that “incorporates respect for and partnership with clients as active participants in the therapy process” (AOTA, 2014, p. S41). Client-centered practice is a priority in the field and has been found to improve occupational therapy outcomes and the therapeutic relationship (Hoshii, et. al, 2013; Tickle-Degnen, 2002). In this study, one educator described the importance of client-centered practice as “putting the client in a position of control” and establishing shared goals for therapy in order to improve client participation. Teaching students in a student-centered way is believed to model client-centered practice (Schroeder, 2012).

## **Downsides of Student-Centered Learning**

Student-centered learning has a number of downsides. For example, one could use a student-centered approach with an active learning technique like PBL and not discuss occupation (Hooper, 2010). Given the importance of centralizing education on occupation, student-centered learning is not, by itself, sufficient (Whiteford & Wilcock, 2001).

Further, while the parallels between client-centered practice and student-centered practice are valuable, there are a few important differences between these types of relationships. Client-centered practice is appropriate for occupational therapy practice because the clients are experts on their own needs (Fisher, 2009). However, the same cannot be said for students. Students are not experts on what they need to know to be competent in a profession (Talbot, 2009). The non-directiveness of Rogers (1969) is difficult to implement in learning situations in which concrete skills need to be acquired by students and are mandated by accrediting bodies such as the Accreditation Council for Occupational Therapy (Baum, et. al, 2010; Talbot, 2009). Educators are necessary gatekeepers that introduce students to the fundamental concepts of a discipline (Smith & Girod, 2003). Given the importance of core competencies and skills in occupational therapy, the role of the educator is essential (Hobson & Morrison-Saunders, 2013).

## **Subject-Centered Learning Builds Frameworks**

In contrast to student-centered learning, subject-centered learning structures learning around a core subject which forms a lens for interpreting and understanding topics (Hooper, 2010). Although active engagement by students is valued in subject-centered learning, the primary focus is on subject and not students. Subject-centered teaching is primarily concerned

with helping students build a framework for organizing and operationalizing knowledge within a discipline around a core subject (Hooper, 2006a). According to Bruner (1960) curricula developed based on the structure of a profession's knowledge improve student retention and application of information.

### **A Field's Subject Matters**

The core subject helps form the structure of knowledge within a profession or discipline. Thus the subject in a field is the primary concept around which all learning is structured (Palmer, 1998). According to Palmer (1998), a field's subject has a life and power of its own. In occupational therapy, that core concept is occupation (Hooper, et. al, 2014). Occupation is a rich concept that helps explain many aspects of life including human development, physical and mental health, and basic biological needs, to name a few (Dickie, 2014; Hocking, 2014; Tanta & Knox, 2014; Wasmuth, Crabtree, & Scott, 2014; Wilcock, 1999). As occupation is personally experienced and meaningful, each student and educator has an important perspective on the meaning and depth of occupation, but no one knows it all. Using a subject-centered learning framework, inquiry about occupation is a dynamic and evolving practice bigger than any one person and involving dialogue among all members of a knowledge community (Townsend, 1997).

In this study, educators made noticeable changes included modifying case studies, redefining assessment expectations, and tying classroom education to occupation. Sometimes this was accomplished by using the model as a physical template that the educators labeled with either the concept of occupation or an example of a specific occupation in the center. After being taught the model, Cathy and her students together identified elements of the

model discussed in class that day, which required students to elaborate on how topics in class related to an occupation. This is similar to Mitcham's (2014) recommendation that both students and educators need to link topics to occupation. Further, her students had to identify relevant knowledge community members and explain their connection to topic or subject, thus clarifying the relationship between elements of the model. This method of teaching emphasized the importance of the core subject of occupational therapy.

### **Teachers Matter**

The function of the educator in student-centered learning is unclear with educators in some cases being mere facilitators. In subject-centered learning, the role of the teacher in elucidating a field's subject is paramount. As Hobson and Morrison-Sanders (2013) put it, "Teachers matter. It has been said before and it will be said again; not the teaching but the teacher matters" (p. 775). In subject-centered learning, the role of the educator is to help students foster a personal relationship with the subject (Hooper, 2006a). Often this occurs through educators conveying their passion for the subject (Palmer, 1998). This passion was reflected in this study when Sandra spoke of the SCIL-OT letting her talk about occupation, her "true love." This was confirming of both the utility of the model and of the role of the educator in subject-centered education.

Educators are also responsible for skillfully designing learning experiences that focus on occupation. Alice described shifting a practical examination from starting with manual muscle testing to starting with occupational analysis. In doing so, she clarified the relationship between topic (manual muscle testing) and subject with knowledge of the topic as secondary to knowledge of the occupation. This is congruent with Hooper's (2006a) claim that in subject-

centered teaching, “educators not only teach a topic or competency, but they also create opportunities in which students link each topic or competency to human occupation” (p. 560). Because the practical started with occupation and the topic was understood through this lens, I interpret Alice’s teaching to be occupation-centered.

### **Students Matter in Subject-Centered Learning**

It is important to note that student-centered learning principles and subject-centered education are compatible. As Hobson and Morrison-Saunders (2013) stated, “Reframing teaching relationships in higher education as a gathering around a subject opens up an endlessly rich and engaging community of learning” (p. 774). Subject-centered education is built on the idea that neither the teacher nor students are complete experts on the core subject and that learning occurs in a community seeking truth together (Palmer, 1998). This idea is reflected in the SCIL-OT by the emphasis on occupation as the center of learning with members of the knowledge community gathered around subject.

In this study, when educators were subject-centered, they still incorporated what could be interpreted as student-centered learning principles. Educators using the SCIL-OT reported students displayed, and at times increased, the active participation and shared-authority that characterizes student-centered learning. In a case study assignment, Monica’s students actively looked for resources in the community and were self-directed in their problem-solving the challenges of the case. However, rather than student-centered learning which focuses on student behaviors and learning outcomes, Monica crafted the assignment that was based on exploring the occupational performance of the older adults in the case. This example shows that subject-centered learning and student-centered learning are ultimately compatible.



## Summary

When educators in this study used the SCIL-OT, educators orchestrated strong connections between topics and the core subject, topics and the knowledge community, and the knowledge community and the subject (Hooper, 2010). Because these connections were made by educators with the intention of co-authoring knowledge with students, it could be said that learning occurred through the interconnectedness of the relationships. This is supported by Palmer's (1998) description of the community of truth "The hallmark of the community of truth is in its claim that *reality is a web of communal relationships, and we can know reality only by being in community with it*" (95). By facilitating this community of truth, educators created a system of learning and shared meaning making, in which all elements of the model necessarily interact and are interdependent with one another. This interconnectedness was interpreted to be confirming of the utility and applicability of the model.

## Elaborations and Conceptual Suggestions

One goal of this study was to develop and refine the SCIL-OT. As laid out by Lynham (2002), theory building is a recursive process in continual development and adaptation. Previous sections of this discussion have focused on confirmation of the model through transformative learning in educators and utility of the model for educators. In this section, I will discuss how the SCIL-OT or explanations of the model were problematic and make suggestions for adaptation.

Educators proposed several changes to the model including making the lines more dynamic and more clearly laying out the interaction between topic and subject. Based on my interpretation of educator stories, I find the recursive nature of the topic-subject relationship to

be underrepresented in the model. Further, the primacy of the relationship between members of the knowledge community is discussed in the theoretical underpinnings of the model, but not in the visual depiction. Based on these two critiques, I suggest a few changes:

*1. Modify lines to highlight the dynamic and recursive nature of learning.*

In this study, educators reported making shifts to emphasize occupation more heavily in their teaching. However, the role of topic as adding nuance and depth to subject was also important. In Amy's multi-part case study, students were asked to consider the important occupations of two older adults. Understanding how family dynamics and financial pressures (topics) affected these individuals' occupational choices and participation helped students see the transactions between topics and subject. In this transaction between topic and subject—topic helped learners understand subject more deeply and subject contextualized topic. This relationship between topic and subject is supported in the literature. In a conceptual piece, Hooper (2010) argued that topics inform subject. "Occupation takes time and well-orchestrated learning activities through which students walk back and forth and back and forth again from the topic of each course and class to the core subject of the curriculum and profession" (p. 100). The connection between topic and subject, then, is dynamic and continually being explored. Based on this and participant feedback that the model, I suggest that the lines connecting elements of the model to have bidirectional arrows to make the transactions of the model more clear.

*2. Highlight connection between members of knowledge community and shared meaning making.*

Educators prioritized connections among members of the knowledge community in both early interviews and after learning the model. As theory should address the meaning of a phenomenon, in this case subject-centered education, descriptions of the model should highlight the shared meaning making among members of the knowledge community (Lynham, 2002). In this discussion, I have argued that subject-centered teaching and student-centered principles are compatible. Given this, a more explicit explanation of how to employ student-centered principles in subject-centered education would enhance the utility of the model.

### *3. Publish model in its entirety.*

Transformative learning, shared authority and co-learning in the classroom, and the importance of the student-educator relationship have been thoroughly discussed in literature about occupation-centered education (for example: Hooper, 2006a; Hooper 2010, Hooper et.al, 2015). However, there is not yet an article or book that ties all of these elements together. Given this, I recommend that the model be published in its entirety to clarify the underlying conceptual framework of the model and the utility of it for educators.

### **Limitations of the Study**

All participants in the study attended the Center for Occupational Therapy Education Annual Summer Teaching and Learning Institute, which limits the ability to distinguish between the influences of the full COTE institute versus the SCIL-OT model. At times, a few educators discussed material taught in the workshop other than the SCIL-OT when they were asked about the model. When this happened, the researchers asked questions to redirect the interviews back to the SCIL-OT. Hence, a study with educators applying the SCIL-OT without having attended the COTE institute would help tease out the distinct benefit of the SCIL-OT.

Additionally, evidence of occupation-centered teaching came primarily from educator self-report without confirmation by observation, artifact data, or student report. As such, educators may not have been as occupation-centered as they interpreted themselves to be. Finally, as this is a qualitative study of a theory in development with seven participants, results may have limited transferability.

### **Implications for Education and Future Research**

Occupation-centered education holds promise for the direction of the occupational therapy profession. This study explored the utility of the SCIL-OT model for occupational therapy educators. Educators expressed that the model helped them centralize occupation in teaching. However, it will be important to extend study of the model by examining artifact data and observing teaching of educators to determine if the occupation-centered learning experience educators create are consistent with the researcher's definition of occupation-centered. Further, the study focused on the experience of educators but no students were consulted. Long-term studies of the effectiveness of the model for enhancing student learning are important. As this was a confirmation/disconfirmation study, additional studies on the model in Lynham (2002) application phase of theory development will also be important.

In this study, it seemed as though educators displayed a shift in stated priorities, which I interpreted as a shift in meaning perspectives. Mezirow (2000) defined meaning perspectives as a "structure of assumptions through which we filter sense impressions" (p. 16). A shift in meaning perspectives is a transformative process wherein individuals critically examine their assumptions, embrace new ideas, and develop different ways of making meaning (Cranton, 2011). Cranton (2011) defines transformative learning as "a deep shift in perspective and

noticeable changes in actions as a result of the shift” (p. 77). However, due to the design of this study, I cannot confirm that educators experienced this shift. Future studies on subject-centered learning using a transformative learning lens may confirm the conceptual framework that underpins the model.

### **Conclusion**

Education directly impacts the direction of a field (Yerxa, 1998). In occupational therapy, it is essential that we emphasize what makes us unique—occupation (Whiteford & Wilcock, 2001). A proposed method for accomplishing this is subject-centered education (Hooper, 2010). Pierce (1999) described the need to “put occupation to work in occupational therapy curricula” (p.1). She issued what I interpret to be a call to arms for occupational therapy educators:

“To put occupation to work, and do it well, is the responsibility of occupational therapy educators. For students to leave our programs speaking fluently and persuasively of occupation and its therapeutic applications is a challenge. The concept is complex and little explored; however, not to do so weakens the field to such a degree that it endangers our survival as a profession” (p.1).

Centering occupation in teaching is a weighty responsibility for educators. However, many faculty have not received formal education on teaching let alone on occupation-centered education. There is a need for faculty development tools that help educators move in this direction.

Given the need for faculty development and the importance of occupation-centered education, the potential of the SCIL-OT is profound. In this study, the SCIL-OT was useful for educators in more heavily emphasizing occupation in their teaching. Implementation of the

SCIL-OT on a broader scale could answer the call of Pierce (2000) and many others to put occupation to work in occupational therapy education.

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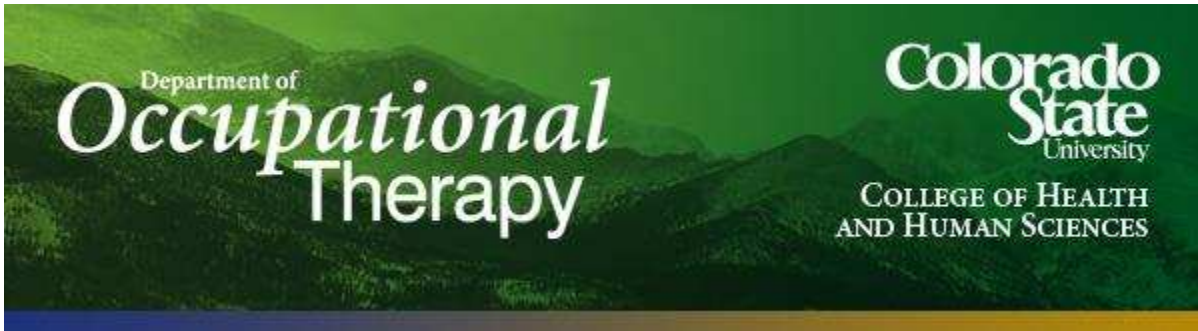
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## APPENDIX A: INVITATION TO PARTICIPATE



### Exploring the Applicability of a New Model of Occupational Therapy Education (MOTE) in Four Learning Contexts

Dear \_\_\_\_\_,

Because you are an educator participating in the Center for Occupational Therapy Education Teaching and Learning Institute, we would like to invite you to participate in a research study entitled, *Exploring the Applicability of a New Model of Occupational Therapy Education (MOTE) in Four Learning Contexts*.

The Model of Occupational Therapy Education (MOTE) is an occupational therapy-specific teaching and learning model. Its purpose is to guide the conceptualizations, learning outcomes, and instructional processes that OT educators employ to help students and clients learn. Due to a paucity of OT-specific education models, education may fall short of helping learners organize all the topics they must learn. Therefore, this study seeks to develop this model of occupational therapy education (MOTE) beyond the conceptual phase of theory-building in applied disciplines (Lynham, 2002). The study uses a participatory research methodology to draw upon OTs in education to review, critique, and hone the definitions and interrelationships of the model's concepts. The primary research questions for the study are: 1) How do occupational therapy educators experience the concepts and transactions of the model of occupational therapy education? 2) How does the model guide educators in designing and implementing learning experiences? 3) What are the limits of the model and what recommendations do educators have for its refinement?

If you choose to participate in the study, you will be asked to participate in a 60-90 minute conference call with the research team and 4-5 other educators like yourself before the Center for Occupational Therapy Education Summer Teaching and Learning Institute. During the Institute, you will participate in a mentored group with fellow educators. After the workshop, you will be asked to participate in another conference call after 4-6 weeks amount of time. The focus of the group interviews will be: 1) Your approaches to teaching students 2) The model of occupational therapy education and your responses, critiques, and suggestions of the model, 3)

Share your experiences and recommendations after attempting to implement the model in your teaching practices.

Your participation is highly valued and important for the progress of this research. We sincerely hope you will choose to participate, though your engagement is completely voluntary. To let us know of your interest or to ask further questions regarding the study, please contact, Barb Hooper at 970-491-1325 or [barb.hooper@colostate.edu](mailto:barb.hooper@colostate.edu) by Thursday, April 30th, 2015. If you choose to participate, please complete and return the attached consent form. Upon receipt, we will contact you to schedule the focus group.

Sincerely,

Barb Hooper, PhD, OTR, FAOTA

Associate Professor Colorado State University

Addy Brown – CSU OT graduate student

## APPENDIX B: CONSENT FORM

Outside Consultant  
Consent to Participate in a Research Study  
Colorado State University

TITLE OF STUDY: Exploring the Applicability of the Model of Subject-Centered Integrated Learning for Occupational Therapy in Three Occupational Therapy Education Contexts

PRINCIPAL INVESTIGATOR: Barb Hooper, PhD, OTR, FAOTA  
Barb.Hooper@colostate.edu

STUDENT INVESTIGATORS: Devin Barth (dbarth@rams.colostate.edu )  
Addy Brown (addbrown@rams.colostate.edu)  
Amanda Zorn (Amanda.Grigg@rams.colostate.edu)

WHY AM I BEING INVITED TO TAKE PART IN THIS RESEARCH? You are being invited to participate in this study because you are recognized as an educator in occupational therapy (OT) either in academic, fieldwork or client/family education contexts.

WHO IS DOING THE STUDY? Dr. Barb Hooper is the Principal Investigator for this study. She will lead a team of four occupational therapy student researchers, three of whom are completing their thesis in partial completion of their Master of Science degree in occupational therapy and one is completing this study as one phase of doctoral research.

WHAT IS THE PURPOSE OF THIS STUDY? The purpose of this study is to further develop the Subject-Centered Learning Model for application in OT education.

WHERE IS THE STUDY GOING TO TAKE PLACE AND HOW LONG WILL IT LAST? This study will involve occupational therapy educators internationally. It will take place over the telephone and through web-conferencing. In total, the study will involve up to 5 hours over a time period of 1-2 years.

WHAT WILL I BE ASKED TO DO? You will be asked to participate in three group conference calls/interviews with the research team and a small group of educators doing similar work as you. The focus of the group interviews will be: 1) your approaches to teaching students or clients/families, 2) the Subject-Centered Learning Model and your responses, critiques, and suggestions for the model, 3) Share your experiences and recommendations after attempting to implement the model in your teaching practices. All three of these sessions will be audiotaped and transcribed.

ARE THERE REASONS WHY I SHOULD NOT TAKE PART IN THIS STUDY? If you do not have: a substantial role in teaching students or clients/families at this time, access to technology to enable you to participate in focus groups with participants in diverse geographical locations, if you are not willing to participate in three focus groups or if you are unwilling to be audiotaped.

**WHAT ARE THE POSSIBLE RISKS AND DISCOMFORTS?** It is not possible to identify all potential risks in research procedures, but you may experience discomfort or fear or worry when asked to share openly about your teaching and to offer contradictory viewpoints on the model under investigation. Every effort will be made to create an open, comfortable environment for dialogue.

**ARE THERE ANY BENEFITS FROM TAKING PART IN THIS STUDY?** The ultimate aim of the study is to improve the quality of OT education across learning contexts. There is no known benefit for participating, but we hope that contributing to this endeavor could be professionally satisfying and meaningful. Also your own teaching practices may be more deeply affirmed through the study and the study may provide new insights and approaches for your teaching.

**DO I HAVE TO TAKE PART IN THE STUDY?** Your participation in this research is voluntary. If you decide to participate in the study, you may withdraw your consent and stop participating at any time without penalty or loss of benefits to which you are otherwise entitled.

**WHO WILL SEE THE INFORMATION THAT I GIVE?** Only the PI and student investigators will have access to the audiotapes and their written transcriptions. We will keep private all research records that identify you to the extent allowed by law. All research records will be kept for at least three years and up until the data are published. We may be asked to share the research files with the CSU Institutional Review Board ethics committee for auditing.

Your information will be combined with information from other people taking part in the study. When we write about what we learned from the pilot study we will write about the combined information we have gathered. You will not be identified in these written materials.

We will make every effort to prevent anyone who is not on the research team from knowing that you gave us information, or what that information is. For example, your name will not be kept with your research records and your record will be stored under lock and key.

**WILL I RECEIVE ANY COMPENSATION FOR TAKING PART IN THIS STUDY?** You will receive a \$25 electronic gift card for participating in this study. Your identity/record of receiving compensation (NOT your data) may be made available to CSU officials for financial audits.

**WHAT HAPPENS IF I AM INJURED BECAUSE OF THE RESEARCH?** The Colorado Governmental Immunity Act determines and may limit Colorado State University's legal responsibility if an injury happens because of this study. Claims against the University must be filed within 180 days of the injury.

**WHAT IF I HAVE QUESTIONS?** Before you decide whether to accept this invitation to take part in the study, please ask any questions that might come to mind now. Later, if you have questions about the study, you can contact the investigator, Barb Hooper at 970-491-1325 or [barb.hooper@colostate.edu](mailto:barb.hooper@colostate.edu). If you have any questions about your rights as a volunteer in this research, contact the CSU IRB at: [RICRO\\_IRB@mail.colostate.edu](mailto:RICRO_IRB@mail.colostate.edu); 970-491-1553. We will give you a copy of this consent form to take with you.

Your signature or electronic signature acknowledges that you have read the information stated and willingly sign this consent form. Your signature also acknowledges that you have received, on the date signed, a copy of this document containing 2 pages.

\_\_\_\_\_  
Signature of person agreeing to take part in the study

\_\_\_\_\_  
Date

\_\_\_\_\_  
Printed name of person agreeing to take part in the study

\_\_\_\_\_  
Name of person providing information to participant

\_\_\_\_\_  
Date

\_\_\_\_\_  
Signature of Research Staff

## APPENDIX C: INTERVIEW PROTOCOL

### Exploring the Applicability of the Model of Learning Human Occupation in Four Occupational Therapy Education Contexts Guiding Questions for Focus Groups

- I. Before the first meeting, send information on:
  - View of learning that we are coming from
  - Preparation of a scenario from interview protocol
  - Consider your role as an educator/instructor
  - Share with them what we see as their role in this research project
- II. Phase One: Educators' Views of Best OT Education Practice
  - a. Data Collection Method: Focus Group interviews
    - i. Spend time setting up the process:
      1. Thanking them for participating
      2. Introductions
      3. Review consent form and ask for any questions
      4. Explain the process
    - ii. [We will have sent them ahead of time a "cheat sheet" on our stance toward teaching and learning: We understand teaching to be.....] Ask here if they have questions about the information they received.
    - iii. Interview Questions [these prompts will have been sent ahead of time. Each person gets 10 minutes to tell their stories]:
      1. Describe the scenario from your own teaching practice that you felt went very well and that left you feeling very satisfied.
        - a. If they don't go there, ask What was most satisfying about that experience?
      2. Describe the scenario from your teaching that left you feeling dissatisfied.
        - a. If they don't go there, ask What was most dissatisfying about that experience?
      3. Researchers listen for and note the following:
        - a. What learning outcomes were they concerned with?
        - b. How did they set up the learning experience to achieve those outcomes?
        - c. How did they implement the learning experience?
        - d. How did they know what the outcomes were for the students?
        - e. What theories or concepts guided teaching?
        - f. What other factors influenced teaching?
        - g. others
  - b. Data Analysis: Qualitative analysis focused on mapping practitioners scenarios to the domains and concepts, and their interrelationships, of the Subject-Centered Learning Model



- III. Phase Two: Initial Presentation and Discussion of the Subject-Centered Learning Model
  - a. Data Collection: Focus group
    - i. Group Process & Structure
      - 1. Member checking from first interview
      - 2. Presentation of the Subject-Centered Learning Model by academic-researchers
      - 3. Opportunity for clarifying questions from participants (practitioner-researchers and academic-researchers)
      - 4. Initial confirmation/disconfirmation of the Model by (practitioner-researchers and academic-researchers):
        - a. In what ways does the model represent or not represent what you do in teaching?
        - b. How could you see using the model in your next teaching session.
      - 5. Explain the worksheet and ask them to complete after 6 teaching sessions.
    - ii. Data Analysis: Qualitative analysis completed by academic-researchers focused on confirming and disconfirming the Model's domains and concepts and their interrelationships
  - b. Data Collection: Worksheet to record each education session and email prior to next focus group.
- IV. Phase Three: Confirmation and Disconfirmation of the Subject-Centered Learning Model
  - a. Data Collection: Focus group
    - i. Group Process & Structure
      - 1. Guided Discussion Questions related to Having used the model as a guide for teaching:
        - a. Review worksheets and use as basis for initial teaching stories.
        - b. What are the strengths of the model?
        - c. What are the limitations of the model?
        - d. What implications for teaching does the model have?
        - e. In what ways can the Subject-Centered Learning model be improved?
      - 2. Guided Discussion Questions related to enhancing the model:
        - a. What learning outcomes best fit the model/which do not?
        - b. What teaching strategies best fit the model/which do not?
        - c. What learning outcome measures fit the model/which do not?
      - 3. Guided Discussion Questions related to Application of the model:
        - a. Having now become familiar with the model, are there ways in which you would like to change your teaching?

- i. If so, how? Why do you believe these changes are important?
  - ii. If not, why not?
  - iii. What would your use of this model be?
- 4. Reflecting back on our first interview, has your understanding of occupational therapy teaching practices or approaches changed in any way?
  - a. If so, how and why?
  - b. If not, why?
- 5. Member Checking: Review of key points of discussion

# APPENDIX D: CODEBOOK

Code	Modifier	Example
<b>Subject</b> – use when occupation is referenced	<b>Explicit</b> – use when the word “occupation” is used	<ul style="list-style-type: none"> <li>• “We need occupation at the center, and so the HOP was created.”</li> <li>• “I’m a neuro therapist who uses occupation”</li> </ul>
	<b>Implicit</b> – use when occupation is implied	<ul style="list-style-type: none"> <li>• “Passionate about theory and its application”</li> </ul>
<b>Topics</b> – use when there is a reference to occupational therapy related content matter not clearly identifiable as human occupation	<b>Clinical</b> – use when content is related to skills/techniques	<ul style="list-style-type: none"> <li>• “The pediatric content”</li> <li>• “A graduate elective so it’s specifically acute care and gerontology.”</li> </ul>
	<b>Self-Management</b> – use when content is related to teaching personal skills related to personal development and management	<ul style="list-style-type: none"> <li>• “Asking students: What do you need to bring to the table?”</li> </ul>
	<b>Theory</b> – Use when content refers to occupational therapy theory	<ul style="list-style-type: none"> <li>• “I am starting this lecture about Moho...”</li> </ul>
<b>Knowledge Community</b> – use when text refers to relationship between individuals or groups	<b>Learner - Educator Interactions</b> <i>Mismatched expectations</i> – apply to text where learners express preference for different outcomes or processes than educator	<ul style="list-style-type: none"> <li>• “It’s almost like they still are expecting that they should just be told what to do and it’s almost like once your turn that role where you need to think on your feet and you need to be here, you always get that negative feedback.”</li> </ul>
	<i>Cooperative</i> – apply to text when learner and educator are interacting in a way that facilitate each other’s strengths	<ul style="list-style-type: none"> <li>• “When students ask questions related to goniometer placement and things like that, I pull out my book and look it up together.”</li> </ul>
	<i>Modified educational approach</i> – apply to text when a feature of the learner causes the educator to modify approach	<ul style="list-style-type: none"> <li>• “This time considered their interests and needs and made interactive presentation on the limbic system.”</li> <li>• “I reconfigured it, added,</li> </ul>

		they say more clinical interaction, more skills.”
	<b>KC Member – Broader Knowledge Community</b> <i>Learner – KC Community</i> – apply to text that refers to exchange between a learner and the larger community	<ul style="list-style-type: none"> <li>• “We actually go out and do a service learning in the community where they run a group with some women and children in the homeless shelters.”</li> </ul>
	<i>Seeking community members as resources</i> – apply to text that refers to an outreach of assistance from the community	<ul style="list-style-type: none"> <li>• “Bringing outside speakers”</li> </ul>
	<b>Learner</b> <i>Positive Behavior</i> – apply to text when educator perceives actions and responses as helpful to learning	<ul style="list-style-type: none"> <li>• “They bring ideas to me.”</li> <li>• “What I see is they’re electric. They’re excited about it.”</li> </ul>
	<i>Negative Behavior</i> – apply to text when educator perceives actions and responses to be hindering learning	<ul style="list-style-type: none"> <li>• “You can just kind of see from the expression in their eyes they’re drifting off.”</li> <li>• “You can kind of see that disinterest or lack of attention.”</li> </ul>
	<i>Age-development stage</i> -apply to text that identifies age or development stage characteristics <i>NOT: final year, etc.</i>	<ul style="list-style-type: none"> <li>• “The students come in as freshmen right out of high school.”</li> </ul>
	<i>Life Circumstances</i> – apply to text when circumstances beyond school/rehab affect performance	
	<b>Educator</b> <i>Frustration</i> – apply to text when educator expresses dissatisfaction with learner performance or outcomes	<ul style="list-style-type: none"> <li>• “I often experience this feeling of dissatisfaction.”</li> <li>• “I get frustrated as leading and teaching...”</li> </ul>
	<i>Road-block to engagement (Educator Effort)</i> —apply to text where 1. educator expresses feeling unsuccessful after	<ul style="list-style-type: none"> <li>• “So I have restructured my particular course on older adults multiple times, reconfigured it, added,</li> </ul>

	attempting multiple strategies to increase engagement or performance or 2. where educator expresses powerlessness	they say more clinical interaction, more skills, more and <b>I just can't quite seem to get a handle on it."</b>
	<i>Gratification</i> —apply to text when educator expresses satisfaction with learner performance	<ul style="list-style-type: none"> <li>• "It has made such a difference and I have loved it."</li> <li>• "It was the most fun I've ever had. The students were just engaged."</li> </ul>
	<i>Instructional Process</i> – apply to text that refers to formal and informal educational approaches includes assessment of learning and assessment of perceived learning	<ul style="list-style-type: none"> <li>• "Sometimes I just try to introduce fun things."</li> <li>• "We'll do a lot of physical, get out of the seat and move around and all that kind of stuff."</li> </ul>
	<i>Expectations for learner</i> —apply to text when educator expresses a desired behavior or academic performance level from learner	<ul style="list-style-type: none"> <li>• "You expect them to be on it and be thinking ahead and problem solving things and kind of problem solving procedural aspects of what's going on and not needing to be spoon fed anymore."</li> </ul>
	<i>Perceptions of learner expectations</i> —apply to text when educator expresses what they believe to be learner goals or expectations of the therapeutic process	<ul style="list-style-type: none"> <li>• "Frequently at that point it's almost like they still are expecting that they should just be told what to do."</li> </ul>
	<i>Perceptions of educator role</i> —apply to text when educator expresses belief or preference about the role of an educator within educational context	<ul style="list-style-type: none"> <li>• "There's no way I'm going to know everything or have had experience with every single topic that I need to teach within the program."</li> </ul>
	<i>Perceptions of self</i> – apply to text when educator expresses belief or preference about personal 1. Performance or 2. Identity.	<ul style="list-style-type: none"> <li>• "I didn't make it relevant."</li> <li>• "Most satisfying-taking a risk and seeing what worked for me."</li> </ul>
<b>Links</b> – use when there is an	<i>Topic – Knowledge Community</i> – apply to text when a feature	<ul style="list-style-type: none"> <li>• "Those new nineteen year olds and trying to help</li> </ul>

<p>interaction between: Subject, Topic, Knowledge Community, and/or Context</p> <p><b>Rule:</b> Should read as active connection and not statement of what they do</p>	<p>inherent to a member of the KC causes educator to revise or shift topic taught</p>	<p>them start beginning to do some of that critical thinking when they're just kind of in the application phase of it."</p>
	<p><i>Topic – Subject</i>—apply to text when topic and subject are explicitly linked</p>	<ul style="list-style-type: none"> <li>• "I'm a neuro therapist who uses occupation, so I don't care if it's 90 degrees shoulder flexion or 100 degrees shoulder flexion; I really don't care. It's what they can do with it that matters to me."</li> </ul>
	<p><i>Topic – Context</i>—apply to text when topic is being affected by the context</p>	<ul style="list-style-type: none"> <li>• "I try for the first assignments I do online, I try and then post a video and that way we all can see each other and hear someone speak and talk and so then I try and kind of build some comradery on that."</li> </ul>
	<p><i>Knowledge Community-Context</i>—apply to text when a reference is made to the interaction between the knowledge community and context</p>	<ul style="list-style-type: none"> <li>• "We go a lot of places so we're out and about in the community a lot visiting different community agencies."</li> </ul>
<p><b>Context</b>—Use when text references external factors that are influencing the educational process</p>	<p><i>Practice setting</i>—apply to text when references are made to the area in which services are being provided</p>	<ul style="list-style-type: none"> <li>• "The class is taught online."</li> </ul>
	<p><i>Point in program/services</i> - apply to text when references are made to learner's point in the educational process</p>	<ul style="list-style-type: none"> <li>• "That mostly occurs in the fall semester of the second year."</li> <li>• "It's the second year course."</li> </ul>