Level II Fieldwork in Hand Therapy: A Pilot Online Training Program to Strengthen Students' Knowledge and Skills

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Chapter 1

Introduction

Background

Studies have shown that fieldwork coordinators are having a hard time finding enough fieldwork sites for their students. The shortage is due to the increasing number of occupational therapy students enrolled in programs and also because of increased productivity demands that have been established in response to healthcare changes in reimbursement. There have been studies done in which clinicians stated they would be more likely to accept students if the students were better prepared. As a result, one option academia has to increase the number of available sites would be to consider previously underutilized settings, such as hand therapy. Such a setting may require specialized training not normally covered in a general curriculum and, as a result, academia would need to insure that their students are prepared for those highly demanding settings by providing additional training for them.

ELearning may very well be something that could work to everyone's advantage. Training modules could be developed and used by both fieldwork sites and the universities to enhance students' performances and knowledge. They could be easily adapted for the different settings' caseloads and educational programs' strengths and weaknesses. They are cost effective and do not require classroom time be taken from the current demands that already exist. Also, the cost of hiring additional faculty could be avoided.

Need

There appeared to be agreement across studies, both nationally and internationally that fieldwork sites were becoming harder to find. There were different reasons cited in the literature felt to be responsible for this.   It was thought to be due, in part, to the increased number of students enrolled in occupational therapy programs needing sites. It has been reported that the

number of students enrolled in occupational therapy programs increased by 18% between the

years 2000 and 2012 (Harvison, 2015).

There are other reasons cited that may also be responsible for the increasing scarcity of

available fieldwork sites. A study investigated perspectives of fieldwork coordinators and

occupational therapy practitioners regarding shortages in fieldwork sites and its relationship to

changes in healthcare. Both groups reported that cost reductions, changes in reimbursement and

increased productivity demands all played a part in limiting the number of available fieldwork

sites (Casares, Bradley, Jaffe, & Lee, 2003). For example, changes in how much insurance

companies reimbursed hospitals for services affected staffing levels, so fewer practitioners were

available to supervise students. In another study, fieldwork educators identified staffing

challenges as the main obstacle to accepting students (Vogel, Grice, Hill, & Moody, 2004).

Occupational therapists may be on maternity leave, or there may be a large number of new

graduates on staff who are not eligible to take students.

Studies have identified many of the obstacles and disadvantages to taking students. The

most common limitation cited across studies was a lack of time and space (Davies, Hanna, &

Cott, 2011; Evenson, Roberts, Kaldenberg, Barnes, & Ozelie, 2015; Short, Sample, Murphy,

Austin, & Glass, 2018). One study indicated that the perceived barriers tended to be extrinsic to

the individual, i.e., space, challenging students, etc. (Davies et al., 2011). The stated

disadvantages of having fieldwork students included possible increased stress on fieldwork

educators due to the number of time students demanded and their lack of training for their role,

potential difficulties with clients, and concern about students' barriers to accepting students

(Davies et al., 2011; Hanson, 2011; James & Musselman, 2006; Short et al., 2018; Thomas et al.,

2007). In light of increased pressures, fieldwork educators had greater expectations of students

(Vogel et al., 2004). Some studies summarized practitioners' perspectives regarding the need for better student preparation before the start of fieldwork. In a survey conducted by Evenson et al. (2015), fieldwork educators valued readiness and high-quality student preparation and expected the schools to provide the appropriate training.

Fieldwork experiences have historically been a significant part of the occupational therapy curriculum. As a result, it is most important, that the number of available fieldwork sites keeps up with the increasing demand.

Significance

There is growing evidence of the general and specific skills that practitioners believe students should have before fieldwork experiences. One study expressed that knowing practitioners' expectations, could "help universities better prepare students for fieldwork" (Vogel et al., 2004, p. 6) while clinicians in another study stated that if students were better prepared, they would be more likely to accept students (Short et al., 2018). One study also identified areas of knowledge and skills that clinicians felt students should be strong or very strong to have a successful fieldwork experience in hand therapy (Short et al., 2018). The significance of the present study, however, was that it identified areas of knowledge and skills that clinicians thought students were very weak in and developed extra training that specifically targeted those weak areas. In this way, students could receive the extra training that some hand therapy sites are requesting.

Innovation

There are very few studies related to fieldwork in hand therapy settings. Only one was found that focused on hand therapy fieldwork specifically. As previously mentioned, it identified the skill sets and knowledge that the hand therapists felt students should be very strong in before starting their fieldwork experiences. (Short, et al., 2018). There were no other studies, or articles

found that spoke to fieldwork experiences in hand therapy and none that identified the perceived

weaknesses of Level II fieldwork students in a hand therapy setting. Skillcorn defined

innovation as anything that creates value for someone or something (as cited in Lamb, 2018).

This project could create value for our profession as it helps meet the need for more fieldwork

sites, thus allowing for an increased number of occupational therapists entering the workplace.

This, in turn, can translate into more available services for clients who need it.

Purpose

The primary purpose of this project was to develop training modules based on those areas

of knowledge and specific skills that Level II fieldwork students were thought to be very weak

in. In this way, if students received extra preparation for more challenging fieldwork

experiences (i.e., hand therapy), it could result in more facilities accepting students as they began

to realize the advantages of having students as opposed to focusing only on the demands and

disadvantages. Secondarily, the project consisted of a survey to identify those skills and

knowledge that therapists felt Level II students would benefit from if they were to receive

additional training.

Chapter 2

Literature Review

The literature review focused on Level II fieldwork, knowledge and skills in hand therapy, adult learning theories, and online learning. Professional organizations (e.g., AOTA, American Society of Hand Therapists (ASHT) and Hand Therapy Certification Commission (HTCC) provided information related to students, fieldwork objectives, competencies, skills, and knowledge. Adult learning theories (both older theories as well as newer ones that directly related to on-line learning) and principles of online learning were examined.

Level II Fieldwork

In addition to the didactic learning that takes place in the educational setting, occupational therapy students complete two 12 week rotations at two different fieldwork sites before graduating. According to the AOTA Commission on Education, "the purpose of fieldwork education is to propel each generation of occupational therapy practitioners from the role of student to that of practitioner" (2016, para.1). It is during the Level II fieldwork experiences that students learn to apply the principles and interventions used by practitioners as they relate to "the application of purposeful and meaningful occupation" (Accreditation Council for Occupational Therapy Education (ACOTE), 2012, p. S62) as they interact with and provide occupational therapy services to actual clients. The types of settings where fieldwork experiences take place are varied and can include, hospitals, schools, nursing homes, pediatric centers, and out-patient facilities. While ACOTE is responsible for establishing the competencies students must achieve during fieldwork experiences, typically each facility will also have site-specific competencies which are directly related to the setting and types of patients receiving occupational therapy services. The competencies established by ACOTE are general but fieldwork educators should incorporate them into their own settings' competencies. They are

written to ensure that once students finish both fieldwork experiences, they are considered to be, "competent, entry-level, generalist, practitioners" (ACOTE, 2012, p.S62) and are prepared to take the national certification exam.

Hand Therapy Competencies

Three possible articles/sources of information were found that could be used as a basis for student competencies. A practice analysis was completed that provided information on the competencies typically achieved by hand therapists as they progress towards certification to develop hand therapy competencies (Kasch, Greenberg, & Muenzen, 2003). The study identified six areas of competency. They included clinical judgment, scientific knowledge, technical skills, communication skills, professionalism and resource management. Clinicians were asked to determine at what point in a therapist's career a competency should be achieved. The analysis identified some of the ones attained early in a hand therapist's career which may be appropriate for students, as well. These particular competencies were quite general and included such items as beginning data collection, recognition of one's limitations, knowledge of basic sciences, research skills, safety awareness and others that were not specific to hand therapy.

Another source of information was a recent study identified that identified those areas of knowledge and skills that clinicians feel students should be very strong in if they are to have a successful hand therapy fieldwork experience (Short, et al., 2018). The top three areas of knowledge identified were anatomy and physiology, diagnoses relative to the upper limb and evaluation and assessment. The top three skills were professionalism, therapeutic communication, and evaluation and assessment technique (Short et al., 2018).

ASHT published a manual entitled, "The ASHT Manual for Fieldwork Educators" which provides essential information to the fieldwork sites to assist them in developing a student

program. However, it does not contain any competencies, in part, because students could be physical therapists or occupational therapists and those competencies are better developed coming from the appropriate governing bodies.

What is eLearning?

The world of eLearning is relatively new. As a result, the terminology lacks consistency which makes it difficult to interpret research and draw appropriate conclusions. One study analyzed the different terms that were in use at the time and, in an attempt to categorize them, divided all of them into eight different groups based on the role technology played in facilitating the learning in the various groups (Anohina, 2005). The terms she used to describe the different groups were web-based learning, internet-based learning, online learning, e-learning, computer-based learning, distance learning, technology-based learning, and resource-based learning. Moore, Dickson-Deane, and Galyen (2011) also addressed the issue of inconsistent terminology in articles related to online teaching. They performed a mixed method analysis to investigate how researchers defined the three terms most notably used which at the time, included distance learning, electronic learning (eLearning) and online learning. There was no consistency in the definitions between experts and they even found that the spelling of the word "eLearning" differed among the various studies. Internationally recognized experts within the field were surveyed in an attempt to develop a definition of eLearning that would be acceptable to everyone (Sangra, Vlachopoulos, & Cabrera, 2012). They arrived at a very general and broad definition which met the needs of the various participants and their respective fields. It was as follows:

E-learning is an approach to teaching and learning, representing all or part of the educational model applied that is based on the use of electronic media and devices as tools for improving access to training, communication and

interaction and that facilitates the adoption of new ways of understanding

and developing learning. (Sangra et al., 2012, p.152)

In the end, it did little to help clarify the meaning of the terminology because it had not been

accepted on a widespread basis' One only has to look at any of the myriads of companies and

universities offering online education to find a plethora of terms and their definitions with no

consistency from one site to the next. The continued difficulties to arrive at an acceptable

interpretation of this aspect of learning may arise partly due to the constant advancements in the

field that occur thus resulting in definitions that quickly become archaic and unacceptable

(Sangra et al., 2012).

For this study, and because there is no agreement on the correct terminology, the term

eLearning will be used to describe the learning in this study. The presentation may or may not

involve the internet which will be duly noted.

Principles of Adult Learning Relevant to ELearning

For this doctoral project, one adult learning theory and one taxonomy of educational

objectives was selected to guide the development of the eLearning training modules. Kolb's

theory of learning and belief in experiential learning was useful to incorporate into this project.

He developed a model of experiential learning that emphasized the importance of creating a

meaningful environment and included active experimentation. He defined learning as

transformational when it occurred as a result of individuals' experiences (Kolb, 1984). Kolb's

model consisted of four stages of learning: concrete experience, reflective observation, abstract

conceptualization, and active experimentation (Kolb, 1984). The concrete experience the student

has is considered the starting point of the learning process. After engaging in the experience, the

student reflects on past experiences and considers them along with the present one in an attempt

to interpret them, and during abstract conceptualization, the learner creates new concepts and ideas as a result of the consideration of past and new experiences. During active experimentation, the learner applies the new knowledge to new situations thus creating additional new concrete experiences (Yardley, Teunissen, & Dornan, 2012). The learner will cycle through all of the stages and create new experiences which lead to more learning. There is no end to the cycle: the more times the learner cycles through it, the more that is learned. Kolb's theory is a cognitive process involving constant adaptation to, and engagement with, one's environment. Bergsteiner, Avery & Neumann explained Kolb's theory as "individuals create knowledge from experience rather than just from received instruction" (2010, p.30).

Kolb's theory of learning has been addressed in some conceptual and research articles on occupational therapy student learning. One evaluated the effects of an experiential learning program on occupational therapy students' clinical reasoning and critical thinking skills. The study seemed to support the use of hands-on learning to enhance those skills in students. The study seemed to further indicate that experiential learning may be more successful with students than problem-based learning (Coker, 2010). In 2017, 32 occupational therapy students enrolled in a health promotion course which included an experiential learning component. The results indicated that coaching strategies combined with experiential learning had a positive effect on student learning. The author further added that "experiential learning projects are effective methods to provide OT students with opportunities to apply classroom skills and facilitate the translation of those skills into future practice" (Phillips, 2017).

Bloom's Taxonomy of Educational Objectives also provides a useful framework for developing educational programs. Benjamin Bloom was one of the editors of the *Taxonomy of Educational Objectives: The Classification of Educational Goals (1956).* Bloom's taxonomy of

learning, as it came to be called, incorporated three domains: cognitive, psychomotor and effective. Adams (2015) stated that "the taxonomy calls attention to the learning objectives that require higher levels of cognitive skills, and therefore, led to "deeper learning and transfer of knowledge and skills to a greater variety of tasks and contexts" (p. 152). The taxonomy was subsequently altered, and subcategories added under each of the domains. The subcategories were arranged in a pyramid fashion so that that the learning that took place within a certain subcategory prepared the learner for the next higher level skill within the same domain (Adams, 2015). The cognitive realm has been studied more extensively than the others in the field of learning because many feel learning relates more to this domain than it does to the others (Weigel & Bonica, 2014). There is general agreement that most objectives for learning occur in the cognitive domain (Adams, 2015; Tijaro-Rojas, Arce-Trigatti, Cupp, Pascal, & Arce, 2016) but Weigel & Bonica stated in 2014, "if we approach the learner from more than one domain of the taxonomy, we should achieve stronger attention, comprehension, and retention" (p. 22). They believed that if the learning impacted all the domains at the same time, the learner will have a better understanding and will retain the information for a longer period. The learner progressed up the pyramid and traveled through all the stages in the domain in sequential order as the lower levels involved more basic learning while the higher ones involved more complex learning (Tijaro-Rojas et al., 2016).

Within the cognitive domain, the subcategories included knowledge, comprehension, application, analysis, synthesis, and evaluation. Adams (2015) described knowledge as, "the foundational cognitive skill and refers to the retention of specific, discrete pieces of information like facts and definitions of methodology" (p. 152). He added that the knowledge level focused on the learner remembering the new information and that the learning could be validated through

testing mechanisms and, therefore, lent itself well to educational settings. Level 2, comprehension, was more than just recalling facts. It referred to the learner's ability to explain the concept or idea to another individual and internalize it in preparation for applying it to other situations (Adams, 2015). The third level, application, was when the learner used what was learned previously to new experiences and the fourth level was analysis, the level where critical thinking becomes a factor (Adams, 2015). Level 4 (analysis) is the level at which the learner had an understanding of the parts and how they are organized to work together. Synthesis and evaluation involved critical thinking and are the last two levels. Synthesis referred to the learner's ability to look at everything that was learned in the previous four levels and utilize it successfully in a new situation. Evaluation is looking back on the learning experience to determine if objectives were met (Doughty, 2006).

Bloom's Taxonomy of Educational Objectives have been used in some occupational therapy studies on student learning. One such study incorporated Bloom's taxonomy into a curriculum design project that was needed as a result of changing from a quarter system to semesters. The curriculum was designed to move the students through stages of remembering and understanding (basic information) to evaluating, applying and creating new experiences (Burwash, Snover, & Krueger, 2016).

eLearning Concepts, Models and Theories

Kolb's Theory of Learning and Bloom's Taxonomy were developed before on-line training became more commonplace. They were typically applied in a traditional classroom setting as opposed to online sessions. Thus, a review of the literature on models and theories used specifically in online learning was conducted. One study analyzed four learning theories (behaviorism, cognitivism, constructivism, and humanism) regarding their basic tenets for

learning, core beliefs, weaknesses and implications in the online environment. Behaviorism starts with a stimulus that elicits an action which is then rewarded or not depending on whether the response was the desired one. The action is seen as behavioral based as opposed to knowledge-based and requires reactions to stimuli (feedback) be built into the training, even if it is online. Cognitivism concerns itself with how new knowledge is obtained and made available for future use. Delivery of unfamiliar information usually takes place in a very formal and structured manner such as a power point presentation. Motivation is not an issue as the presentation should engage all learners, regardless of their motivation (Arghode, Brieger, & McLean, 2017).

Constructivists believe new knowledge is internalized through experimentation, assimilation, and contemplation. The focus is on the learner as the one responsible for incorporating and assimilating unfamiliar information. This kind of approach would require that online learning be very interactive and demand active participation on the part of the learner. The active participation increases the motivation of the learner, and the motivation to learn becomes intrinsic rather than extrinsic. The focus of the humanistic approach is more within the affective realm than the others that were studied, and this makes it difficult to quantify its success or failure. Online training from a humanistic standpoint would include focusing on the affective as well as the behavioral and cognitive domains. Humanists view learning as occurring under ideal conditions. When this occurs, it has a positive effect on the learner's potential and motivation to learn (Arghode et al., 2017).

One study incorporated four components to promote learning in an online environment using a cognitive apprenticeship approach. The four domains were social context, task sequencing, kinds of knowledge and learning-centered teaching methods. However, they applied it in a blended classroom setting (one that involved both online and classroom interactions).

Furthermore, it was directed at group activities and assisting students in group projects. The results seem to indicate that a learning-centered approach was more successful than a content learning one in achieving student learning and that the virtual learning environment was able to cover the required content successfully using that approach (Garcia-Cabrero et al., 2018).

Many articles that were specific to the online environment focused on constructivism. Hughes, Ventura, & Dando (2004) demonstrated how to use constructivism in an online setting incorporating evidence-based learning (EBL) and peer review. EBL is similar to Bloom's taxonomy in that the process of learning is seen as a pyramid in that the student learns the basics and then builds on that knowledge as they cycle through a process. They chronicled the initiation of a large, online training module that was used with 700 students from nine different healthcare courses and compared it to using EBL in the classroom. However, their focus was based more on social constructivism rather than cognitive constructivism. Social constructivism required interaction between the students, peer feedback via discussion boards as well as reflection on the part of the students. Social constructivism theory may not be the best choice with an asynchronous delivery of education that involves different students who were all on different timetables and were working independently of each other.

Boling, Hough, Krinsky, Saleem, and Stevens (2012) did a qualitative research study to determine what factors, from both a teacher's and a student's perspective can positively impact an online learning experience using problem-based learning from a constructivist's viewpoint. The researchers incorporated information resources, cognitive tools, related cases, and other components into the learning environment. They found that establishing a sense of community between the participants and the participants and the instructors were factors that significantly

impacted the learning experience. They also found that the students favored more "action-oriented" teaching techniques, i.e., multimedia and interactive techniques.

Alt (2015) investigated if constructivist's concepts and beliefs using problem-based learning could have a positive effect on self-efficacy and enhanced self-regulation on the part of the learner in higher education. She also wanted to identify the specific practices that enhanced self-efficacy. She defined self-efficacy as whether the student believed in their ability to achieve the academic goal and to regulate individual learning. She proposed that the more self-efficacy a student possessed, the more persistence and motivation the student would exhibit in the learning, and the more likely learning would occur. Her results indicated that motivation had the most effect on a student's perception of self-efficacy. Also, since constructivists feel the learner is responsible for learning and should be actively involved in the process, self-regulation is an essential part of the process and should be maximized as well.

Enhancing Learning in an Online Environment

Regardless of the specific learning theory applied to the development of online training modules, Arghode et al. (2017) felt that all the theories had something to contribute to the design of an instructional program and further that, "instruction should improve performance" and that "learning can be facilitated and achieved through appropriate interventions" (p.605). Garcia-Cabrero et al. (2018) expressed this same idea when they said, "The technology needs to be embedded in appropriate instructional processes" ("Design of a Learning-Centered Environment," para. 2).

Different types of interactions have been examined in distance education. Moore (1989) proposed there are three different types of interactions that occur in distance education. He called these learner-instructor, learner-learner, and learner-content. He emphasized the importance of

learner-content interaction in facilitating learning through changes in the learner's understanding.

Some training relies purely on the learner to content interaction due to the nature of the

education. Abrami, Bernard, Bures, Borokhovski, and Tamim defined student-content interaction

as, "students interacting with the subject matter under study to construct meaning, relate it to

personal knowledge and apply it to problem-solving" (2011, p. 86). Bernard et al. completed a

meta-analysis of the three different types of interactions in online education and found that all

three kinds of interactions positively impacted achievement outcomes (2009). They concluded

that distance education courses should be designed to enhance student-content interactions as this

had a positive effect on student learning. Abrami et al. (2011) also addressed the importance of

student-content interaction as well as the importance of self-regulation.

Problem-based learning and case studies are commonly used in online education.

Gündüz, Alemdag, Yasar, and Erdem (2016) evaluated the effectiveness of problem-based

learning in online education which has been shown to have a positive effect on learning.

Problem-based learning focuses on the student actively learning as opposed to the teacher

actively teaching and consequently, the student has to take responsibility for learning (author,

year). Case studies are a type of problem-based learning in that the students experience a real-life

problem presented within its context (author, year). This approach assists students in developing

problem-solving skills, clinical reasoning skills, and self-directed learning skills, all of which

have been shown to increase motivation for learning (online.sfsu.edu).

Metacognitive strategies and self-regulation in self-directed learning, have been shown to

enhance student learning. Choi supported the use of metacognitive strategies and specifically

self-regulation which had a positive correlation with learners' satisfaction (2016, p.1).

Metacognitive strategies are those strategies that students recognize as helpful for their learning

while self-regulation is when a student implements those strategies (Livingston, 1997).

Metacognition is a significant feature of self-regulation and includes awareness, knowledge, and

control of cognition (Abrami et al., p.88). The onus for learning is on the student. Gillett-Swan

emphasized the importance of "facilitating and developing student higher-order thinking skills"

(2017, p.23) while Sharp & Sharp (2016) stated that performance progress tools (i.e., assessment

focused learning activities or peer to peer feedback) could result in enhanced self-regulation and

improved performance. Time management (i.e., stated due dates) and the use of learning

enhancement tools (i.e., taking notes) have also been shown to have a positive impact on self-

regulation (Sharp & Sharp, 2016). They stated that self-regulation involves students using their

metacognitive strategies and internal motivation to obtain the goals they set. In referring to

motivation, the authors felt it depends on enhancing the self-perception the students hold

regarding their competence and abilities to achieve the goal. Students who are self-regulated will

know what they need to do to increase their learning and will make sure it gets done. The amount

of self-regulation a student has is proportional to the chances of the students' success. They go

on to present three design strategies that assist in the development of students' self-regulation

development.

Some studies have demonstrated that increased student satisfaction resulted in superior

academic achievement (Arbaugh & Duray, 2002; Ke & Kwak, 2013; Yuen, 1990). As a result, it

was important to incorporate activities/resources into training that has been proven to enhance

student satisfaction. Abrami et al. in 2011, reported that most studies talked about the importance

of interaction whether it be the student to teacher, student to student or student to content. He

defined interaction as when the student assigns meaning to something learned, incorporates it

into what is already known and then applies it in future situations (Abrami et al., p.86). This

interaction can have a positive impact on student learning and can be carried out through videos

and interacting with them. It can also occur using a pyramid-like presentation format as one

might do to present new information.

Perlman, Weston, & Gisel, (2010), designed a web-based tutorial for undergraduate

occupational therapy students to uncover what aspects of it influenced their learning. One of the

strengths identified by the students was that it allowed for independent learning. Such is the case

with most asynchronous, independent online education. In addition to feeling self-directed, the

students also appreciated receiving immediate feedback which built into the video. The authors

felt that it was not the technology itself that was responsible for the positive aspects of the

tutorial but more likely, it was the design of the tutorial and the methodology the instructors

incorporated that caused the positive results.

Multimedia learning principles

Another part of the literature review focused on information related to multimedia and its

use in an online environment for training purposes. Mayer described a theory of learning related

to multimedia in 2008 that consisted of three principles. The first was that humans process

information and learn differently when confronted with visual instructions as opposed to verbal

ones. The second tenet is that channels for processing new information have limited capacities

and the third is that leaning is dependent on cognitive processing. Designing multimedia learning

opportunities, therefore, entails facilitating the learner's cognitive processing (i.e., self-regulation

strategies, learner controlled the speed of presentation) while not overloading the system's

capacity (i.e., minimizing extraneous material, highlighting essential material, etc.).

There are information and research available that address the use of videos in online

teaching. Karsenti & Collin carried out a study in Canada to enhance their knowledge of the

impact of videos on pre-school student teachers' self-efficacy (2011). They studied included over

400 participants, and the results appeared to indicate that the videos had a positive effect on the

student teachers' self-efficacy as the average self-efficacy scores increased from 74.9% (pre-test)

to 79.2% (post-test). Its other advantages were its flexibility and the impact on meeting students'

needs. In 2015, Cooper & Higgins evaluated the use of instructional videos in teaching clinical

skills. As previously stated, most online studies addressed the cognitive domain whereas Cooper

& Higgins wanted to assess the effects of instructional videos on cognitive, affective and

psychomotor skills. The participants were divided into two groups. One group watched a series

of 25 short videos (< 2 minutes) while the others watched five videos of a longer duration (10-18

minutes). The results did not conclusively demonstrate evidence supporting the use of videos in

online teaching, but it did not cause any harm to the participants either. The authors felt that

using videos should still be encouraged as there may be other advantages to their use.

Effectiveness of eLearning?

Some studies have been done that speaks to the increased learning that occurred with

eLearning. Abrami et al. (2011) analyzed 232 studies done between 1985 and 2003 and reported

that most studies agreed that distance education was a useful tool that can result in learning. At

the same time, they added that there was so much variety among the different studies that the

first conclusion (it was an effective method of education delivery) may not even be correct.

However, there has been a plethora of articles since then that have supported his assertion

(Lawdis, Baist, & Pittman, 2017; Perlman et al., 2010; Sharp & Sharp, 2016).

Pittman & Lawdis (2017) initiated online training for occupational therapists using a

multifactorial training approach. The training focused on using visual, auditory and kinesthetic

techniques which have been shown to enhance student learning through organization,

conceptualization, and understanding. This particular approach, in turn, positively impacted

professional development and eventually, self-competence and confidence. The objective of their

project was to determine if a multifactorial approach facilitates a practitioner's competence and

results in more skilled delivery of services. Twelve of the fourteen participants reported that

online training increased their clinical abilities. Others spoke to the comfort of being able to

progress through the training at a comfortable speed as being important. The implications of the

study, according to the authors, was that online training should be a part of students' education.

Lawdis et al. (2017) developed a six week online training module geared towards increasing the

knowledge of school-based occupational therapists in regards to evidence-based practice (EBP).

They recruited 15 therapists for the study. The power point presentation was narrated and

utilized video elements. The participants took the same survey before and after their training to

determine if their knowledge increased after the training course. All the participants reported that

after they viewed the presentation, they were more inclined to incorporate EBP into their

treatment plans. Thus it appeared that on-line training could be an effective method for providing

training and education.

Summary

The long-term objective of this project was to provide students who are planning to do a

fieldwork experience in hand therapy extra online training before starting their fieldwork

experiences. This training would intentionally incorporate the following attributes of adult

learning and online learning to support student acquisition of knowledge and skills that are

important in hand therapy fieldwork settings.

It was proposed that students who may be better prepared for treating patients and would

require less direct supervision. The hope was that hand therapy facilities would be more

amenable to accepting Level II fieldwork students if students had stronger knowledge and skills

and required less time on the part of the fieldwork educators. If this were to happen, the resulting

increased number of available fieldwork sites would benefit the universities and certainly the

field as a whole.

   Learning theories such as Kolb's and Bloom's taxonomy were utilized in developing the

training modules. In additions, activities that have been shown to enhance motivation, self-

regulation, student satisfaction and student to content interaction were utilized as all have been

shown to have a positive effect on learning.

   The two primary questions for this doctoral project were:

- Does extra training in orthotic fabrication before the start of a Level II fieldwork

  experience result in stronger skills as perceived by the fieldwork educator?

- Does extra training in billing and coding before the start of a Level II fieldwork

  experience result in greater knowledge as perceived by the fieldwork educator?

A secondary question for this doctoral project was:

- What are the perceived areas of weakness in knowledge and skills, as reported by

  occupational therapy hand therapists who have supervised Level II fieldwork students

Chapter 3

Approach

There were two parts to my project and the development of the second part rested on the outcomes of the first part. The first part was to evaluate the perspectives of occupational therapists who work in hand therapy to identify their perceptions of the level of knowledge and skills that Level II fieldwork students demonstrate during fieldwork experiences. The second part of the project was to develop training modules based on survey results that targeted the skills and knowledge in which students were felt to be very weak. The objective was to determine if extra training provided during the first week of the fieldwork experience would enhance the skills and knowledge of the students.

An application was made to the St. Catherine Institutional Review Board (IRB) at the exempt level as there was negligible to no risk to the participants (clinicians) and the clinicians did not put their names on their surveys. The IRB subsequently approved the investigation at the exempt level. An addendum to this application was also submitted in the fall to summarize data collection during the second part of my project (IRB #1044) (Appendix C).

Part 1: Survey

Description of survey. The doctoral project used a survey design to identify areas of knowledge and specific skills that Level II fieldwork students were perceived to be very weak during their fieldwork experiences (Appendix A). The survey was based on one developed by Short et al., 2018 (Appendix B) which identified those areas of knowledge and skills that clinicians felt students needed to be well versed in to have a successful fieldwork experience in a hand therapy setting. However, the Short et al., study did not investigate if students were strong or weak in those areas from the perspective of hand therapists. This doctoral project built on Short's survey (2018) because it included all the individual items within each of the domains

(knowledge and skills) and asked clinicians to rate if students were weak or strong in those areas. It also included an opportunity for free text under each domain to allow participants to add items that were not otherwise listed.

Participants. The participants were recruited from a group of therapists attending the annual conference of the Georgia Hand and Upper Extremity Special Interest Group (GHUESIG) in April 2018. The survey (Appendix A) required respondents to designate their profession (OT or PT) which allowed the investigator to include only responses from occupational therapists. The participants also had to note whether or not they were a certified hand therapist (CHT) which further allowed the investigator to identify if CHT and non-CHT occupational therapists had different perceptions of Level II fieldwork students' strengths and weaknesses.

Procedures. A copy of the survey, an index card, the introductory remarks and contact information for the researcher were handed out to each of the participants as they entered the auditorium. The project was summarized for the attendees on the first day of the conference before the first and second speakers. The explanation included the history of the project and the long-term objective. Informed consent was assumed if the participants returned a survey as it was an indication of their agreement to participate in the study.

Participants were asked to rate Level II fieldwork students' knowledge in 13 areas on a Likert scale from very weak to very strong, based on past experiences supervising students. They were also asked to rate students' skills on nine items along that same Likert scale. The participants were instructed to put the completed surveys in a box labeled "surveys" that was on the conference registration table. The surveys were placed in the investigator's room until the conference was over to ensure confidentiality.

After explaining the purpose of the survey, the clinicians were asked if they were scheduled to have a Level II student in the fall of 2018 and if so, to consider participating in piloting the training module. If they were interested in learning more about the study they were asked to put their contact information on the index card that was affixed to the survey and to place it in the same box as the completed surveys. The participants who left their contact information received an email within two weeks thanking them for their interest. The email also explained an anticipated timeline for the study. Five index cards were turned in at the conference, and after contacting all the clinicians, one did not reply, and one was not having a student in the fall. Two had students who started on September 10, and a third had a student that began on October 1.

Data analysis. Seventy-five surveys were distributed, and 41 were returned. Six were excluded because the respondents never had a student and therefore, were not in a position to complete the survey accurately. All the very weak responses were counted up individually for each of the line items in both domains and expressed as a percentage of the total number of responses received. The data were entered into an excel spreadsheet and was analyzed using formulas for descriptive statistics embedded into the spreadsheet.

Part 2: Development of training modules

Description of the training modules. Two different training modules were developed based on the survey results. The first module was a PowerPoint presentation that addressed the knowledge area in the survey with the highest percentage of very weak responses (billing and coding). The information was presented in a hierarchical manner starting with the simplest most basic information and progressed to more complex information throughout the presentation. There was also an outline for the students to follow as an outline can enhance self-regulation

(Sharp & Sharp, 2016). The presentation included examples of treatment sessions with explanations of the correct billing codes for each example (contextual learning, problem-based learning). Also, there was an explanation of the new occupational therapy evaluation codes and complexity levels, and again, the students had handouts that could be referred to when needed (Appendices D.1-D.4) which enhance student self-competence which, in turn, has been shown to enhance student satisfaction.

The second training module was a series of brief videos that focused on orthotic fabrication. It consisted of two parts each of which focused on a different aspect of orthotic fabrication. The first part was broken up into four segments and allowed for more active participation on the part of the students who had to make a pattern, transfer it to the thermoplastic material, and subsequently cut out the splint out and fit it to an individual. The student was able to control the pace of the video at multiple points which are a tool of self-regulation. The first video was a demonstration of how to make the pattern for a specific orthosis. The student paused the video and drew the same design using another employee as the patient. The second video was a demonstration of cutting and fitting the splint. Once again, the student paused the video and was required to do the same. Learning, at this point, was by observation, reflection, and experimentation. Also, along the way, the narrative included tips, rationale and instructions around orthotic fabrication that would be of benefit for the students to hear, internalize and practice. Clinical decision making was also a valuable component of the video as the reasons for splint design, for example, and subsequent actions were explained as two very different patients were each referred for a wrist cock-up splint. Using case studies is one application of problem-based learning which has been found to be successful in an online environment in enhancing learning (Gündüz et al., 2016). The students were able to see that

individual patient factors, as well as evidence-based practice, were both vital parts of clinical

decision making.

The last video entailed the students making two carpal-metacarpal (CMC) hand based

orthoses using two very different types of thermoplastic materials. This hands-on approach was

incorporated to familiarize the students with the different properties of various thermoplastic

materials and illustrate how a clinician should consider the properties of different thermoplastics

during the planning phase of orthotic fabrication. The students were provided with a pattern for a

CMC splint since the focus of this section was on learning about and experiencing different

properties of the various thermoplastics. They learned how to fabricate a CMC hand-based

orthosis, and then the student was instructed to make two CMC orthoses using two of the

supplied pieces of splinting material that was labeled accordingly. Once the students fabricated

the orthoses, they were directed to have a discussion with the clinical educator and explain what

was different about the two materials and under what circumstances one might be more

appropriate to use than the other. It was vital for the fieldwork educator (FE) to give feedback to

the student as it supported student self-regulation. It allows students to monitor their progress

which has a positive influence on the students' learning (Abrami et al., 2011). The researcher

explained to each of the FE's the talking points that should be included in the discussion

following completion of the video. A list of the specific items to be discussed was put in the FEs'

packets.

Procedures. The fieldwork educators (FE) and the researcher made arrangements to meet

approximately two weeks before the students' start dates. Each FE received a bag containing

three large envelopes. One envelope was labeled, "Orthotic fabrication video" and contained all

the materials needed for the student to fabricate the required splints as well as handouts

explaining the different properties of each of the materials and a list of references. The second

envelope was labeled "Coding and billing" and contained an outline that the student could take

notes on (Appendix D.1), a sample fee ticket, handouts explaining the new occupational therapy

evaluation and complexity codes (Appendix D.2) , a list of "L" codes (Appendix D.3), and a list

of 2018 CPT codes for occupational therapy (Appendix D.4). The final envelope was labeled,

"Fieldwork Educator." It contained two informed consent forms (one for the student and one for

the clinical educator) (Appendices E.1 and E.2), a pre and post test for the student to take before

and after the power point presentation (Appendix F) and the final assessment of the student's

performance (Appendix G). The researcher also included a self-addressed, stamped envelope to

mail paperwork back to the primary investigator and the step by step instructions for the FE

which included due dates for the various components of the study. Each FE also received a box

of chocolates as a token of appreciation. The researcher and FE reviewed the step by step

instructions, and due dates during this meeting. The fieldwork educators were further instructed

to have the students complete the training modules during the first week of the fieldwork. It was

imperative to give the training during the same period for consistency and also because it

resulted in minimizing the amount of time the student was out of the clinic once they had patient

responsibilities.

One week before the beginning of the fieldwork experience, the FE's received a reminder

about the training along with another copy of the instructions and a link to the video and power

point presentations. The instructors were asked to confirm it was received and to make sure the

link worked to avoid any last minute glitches. At the beginning of the fourth week of the

fieldwork experience, the fieldwork educators received an email reminding them about the

upcoming evaluation of the students' performances to assess if the student's orthotic fabrication

skills and knowledge of billing and coding exceeded expectations, met expectations or did not

meet expectations. A final email was sent at the end of the sixth week that reminded the

fieldwork educators to return the student evaluation, informed consents and pre and post-tests to

the primary investigator.

Data analysis. There were two sets of data collected for this part of the project that was

specific for this study. The first was the results of the pre-test and post-test scores in regards to

the PowerPoint presentation (Appendix F). This data was used to determine if the training

module resulted in student learning.

The other set of data was an analysis of the students' performances in orthotic fabrication

and knowledge of billing and coding. The FE's completed an assessment at the midterm of the

fieldwork experience (Appendix G) to determine if the training modules might have contributed

to improved student performance.

Chapter 4

Outcomes

The outcomes for this doctoral project are summarized by its two parts: the survey of occupational therapists who were working in hand therapy to identify specific knowledge and skills they felt were very weak in Level II fieldwork students, and the evaluation of occupational therapy fieldwork student performance after completing two training modules

Part 1: Survey

The survey in this study was an extension of the one used by Short et al. (2018) in which the participants identified areas of knowledge they felt students needed to be very strong in to have a successful hand therapy fieldwork experience. The focus of this part of the research was to identify *very weak* skills and knowledge that students were perceived to have. Seventy-five surveys were handed out at the conference, and 41 returned which represented a 55% return rate. Six surveys were excluded because the participant was not an occupational therapist or had never supervised a student. The 35 surveys included in the analysis represented 27 occupational therapists, CHT's (77%) and eight occupational therapists, non-CHT's (23%). The frequencies of very weak responses were obtained for each of the line items in both domains and expressed as a percentage of the total number of responses received.

Knowledge domain. In the knowledge domain, the area that garnered the most very weak responses was coding and billing (47%) for both CHT's (*n=12*) and non-CHT's (*n=4*) followed by manual therapy (29%). Knowledge of treatment protocols and physical agent modalities also received a fair number of very weak responses (26%) (See Figure 1).
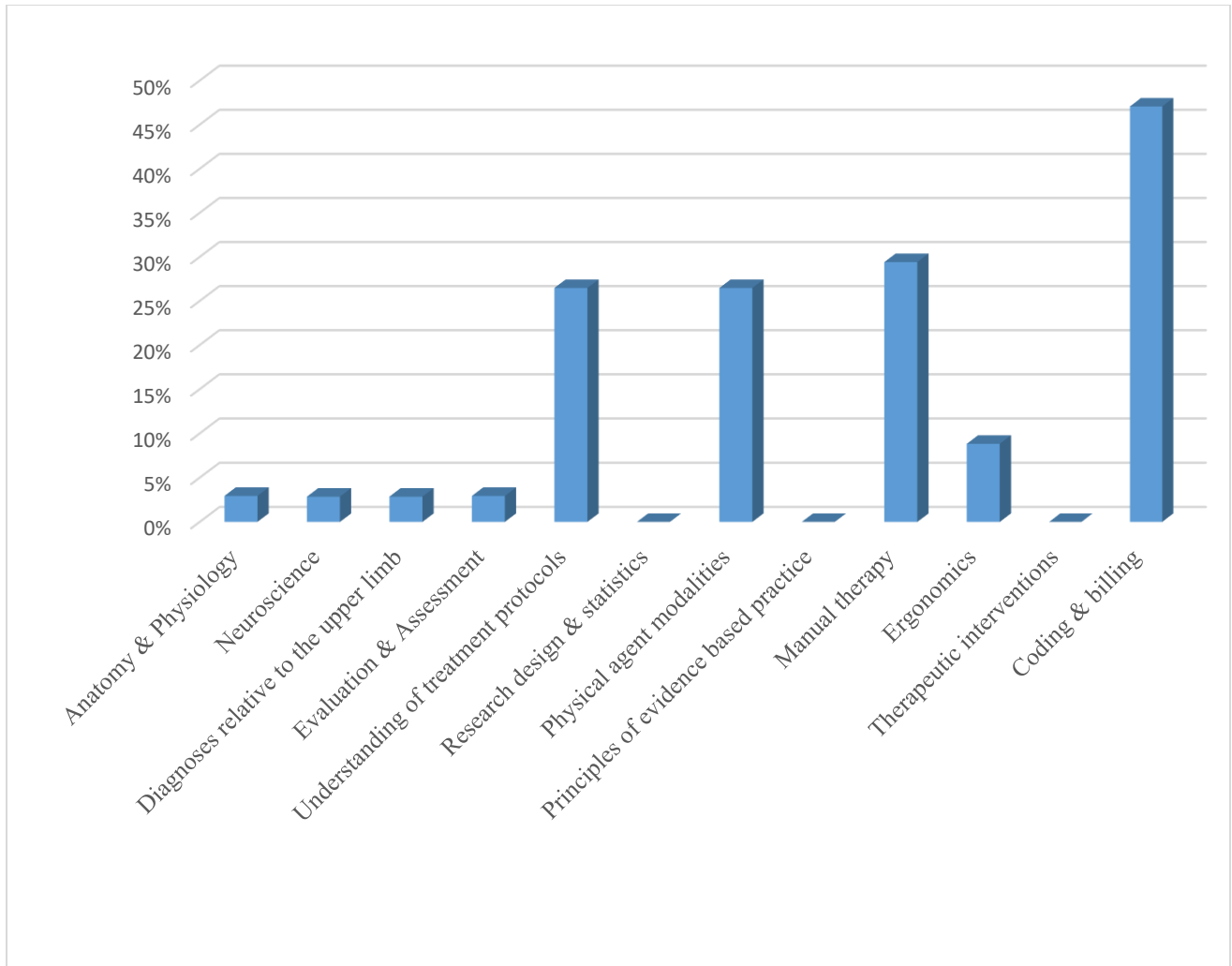
Figure 1. Percentages of Very Weak Responses: Knowledge Domain

Skills domain. In the skills domain, orthotic fabrication skills were deemed very weak by

42% of the respondents while physical agent modalities were felt to be very weak by 29% of the

participants and manual therapy techniques was third with 26% (See Figure 2).
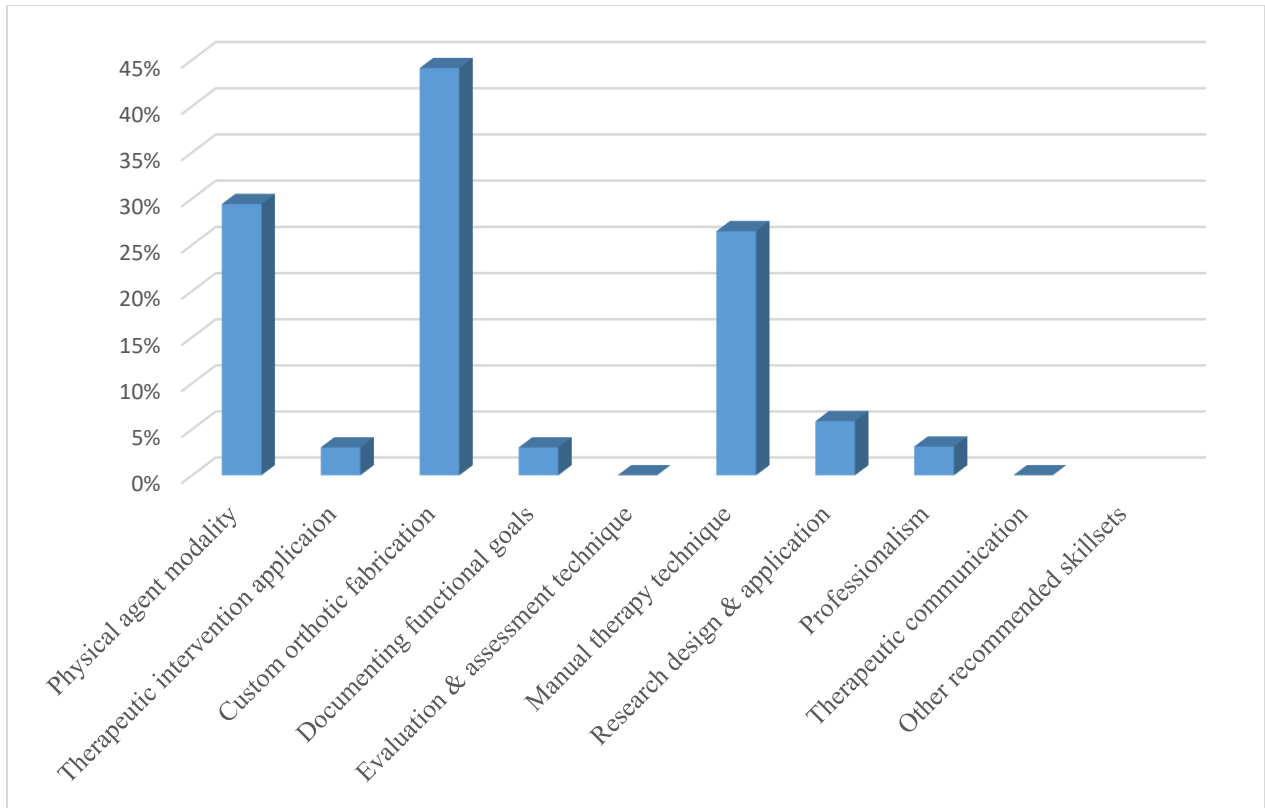
Figure 2. Percentages of Very Weak Responses: Skills Domain

Results of all the ratings for each of the domains

Knowledge domain. For this study, Figures 1 and 2 provided the needed information to select the focus of the training videos. However, if one was to examine all the other responses for both domains as well, other pieces of information may prove useful to students and educators alike. For example, clinicians reported the highest ratings of "very strong" for research and evidence-based practice (43% and 42%, respectively) and therapeutic interventions (30%). Furthermore, 24% and 21% reported students were "strong" in evaluation/assessment and physical agent modalities, respectively. (See Figure 3)
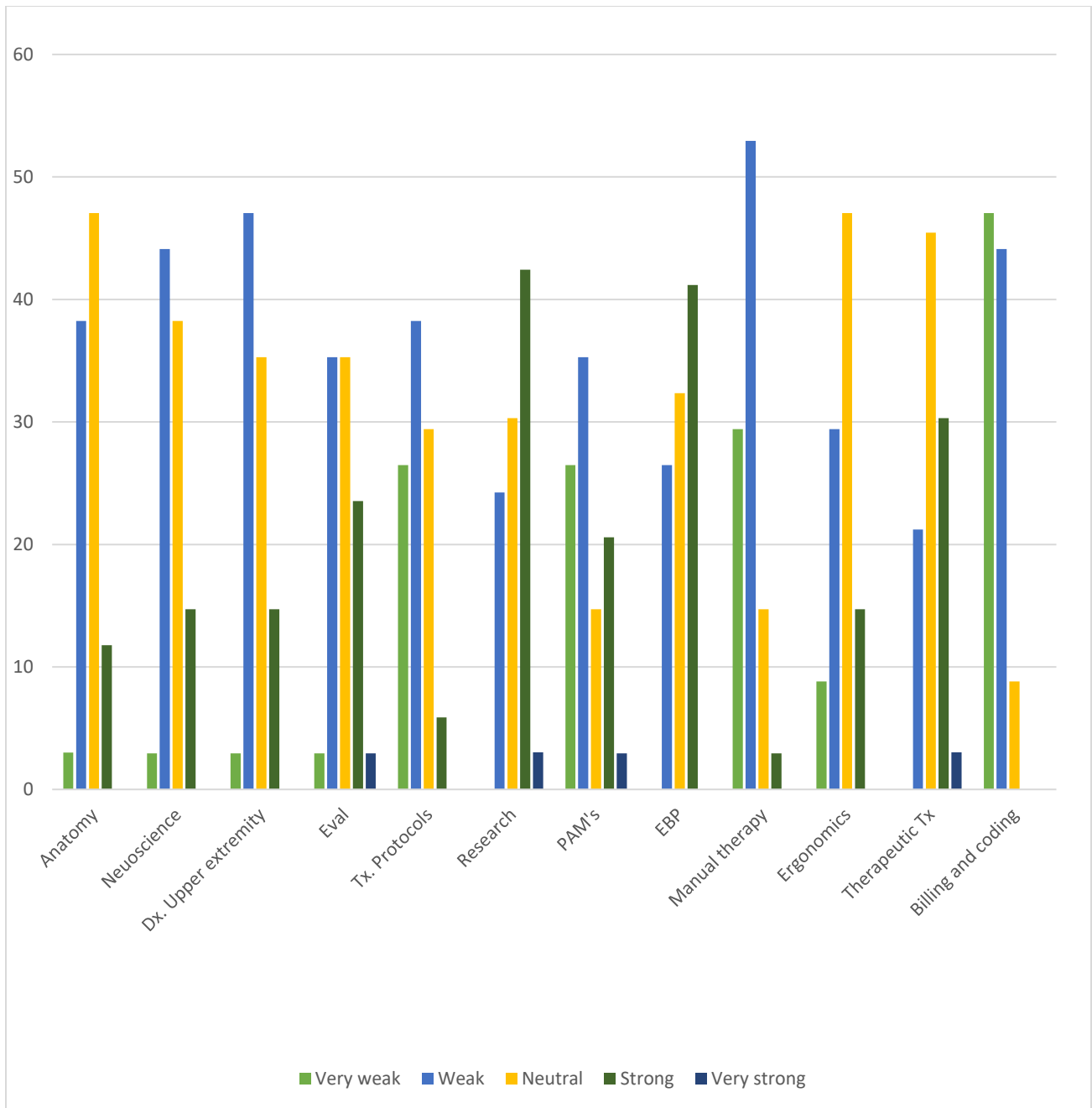
Figure 3. Percentages of all responses: Knowledge domain

Skills domain. Clinicians felt Level II fieldwork students had very few skills that were

very strong (See Figure 4). Professionalism and therapeutic communication had the highest

number of *very strong* responses with 12% and 8% respectively. However, 62% felt students

were *strong* in professionalism, 44% felt students were *strong* in their knowledge of functional

goals, and 38% believed they were *strong* in therapeutic communication.
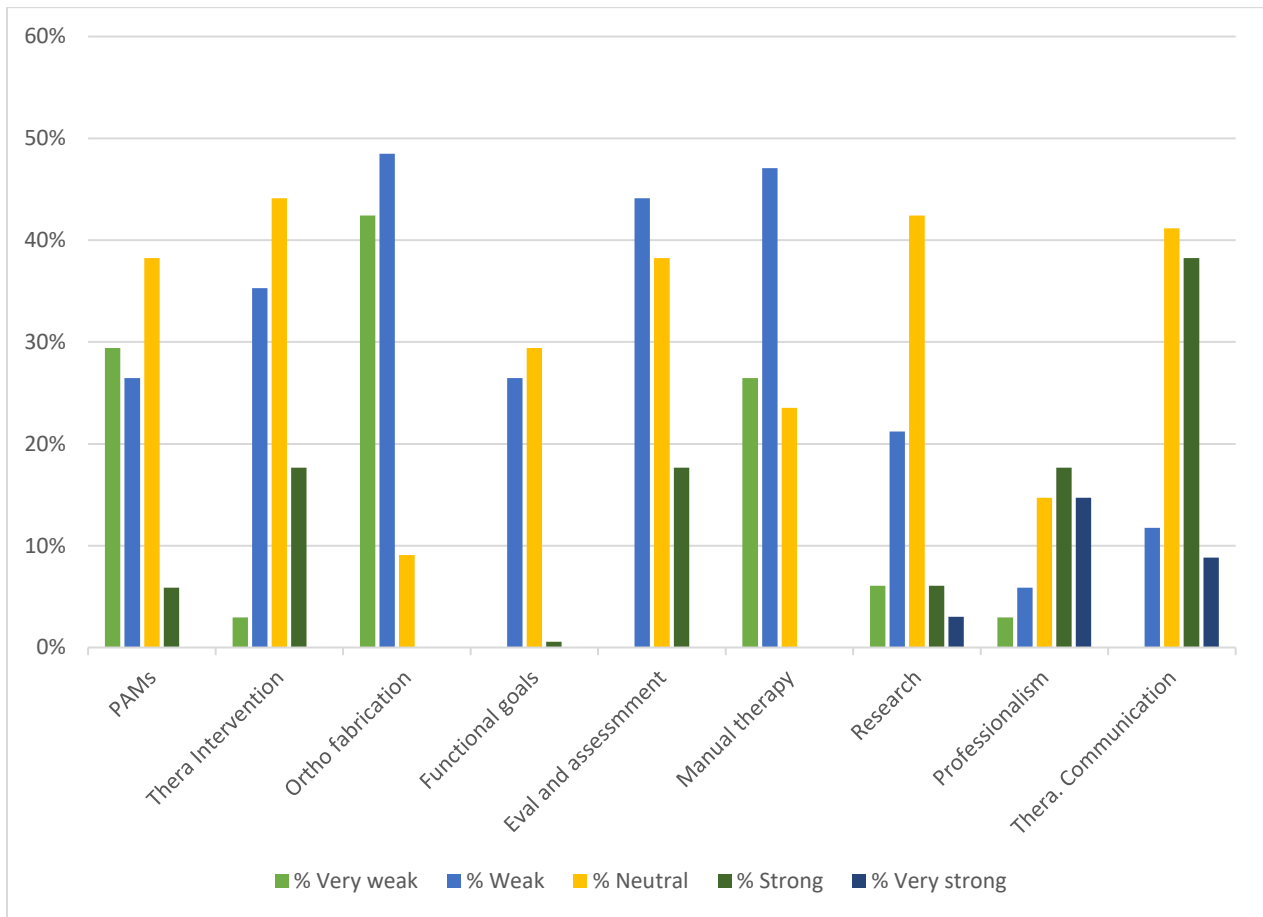
Figure 4. Percentages of all responses: Skills domain

Combined strong and very strong responses.

Knowledge domain. If instead of isolating strong and very strong responses, one was to

combines those responses, it might help schools identify areas of strong performance. The top

four areas of knowledge that received the highest percentage of responses when *very strong* and

strong responses were totaled were researched (44%), evidenced-based practice (41%),

therapeutic interventions (32%) and evaluation and assessment (26%) (See Figure 5).
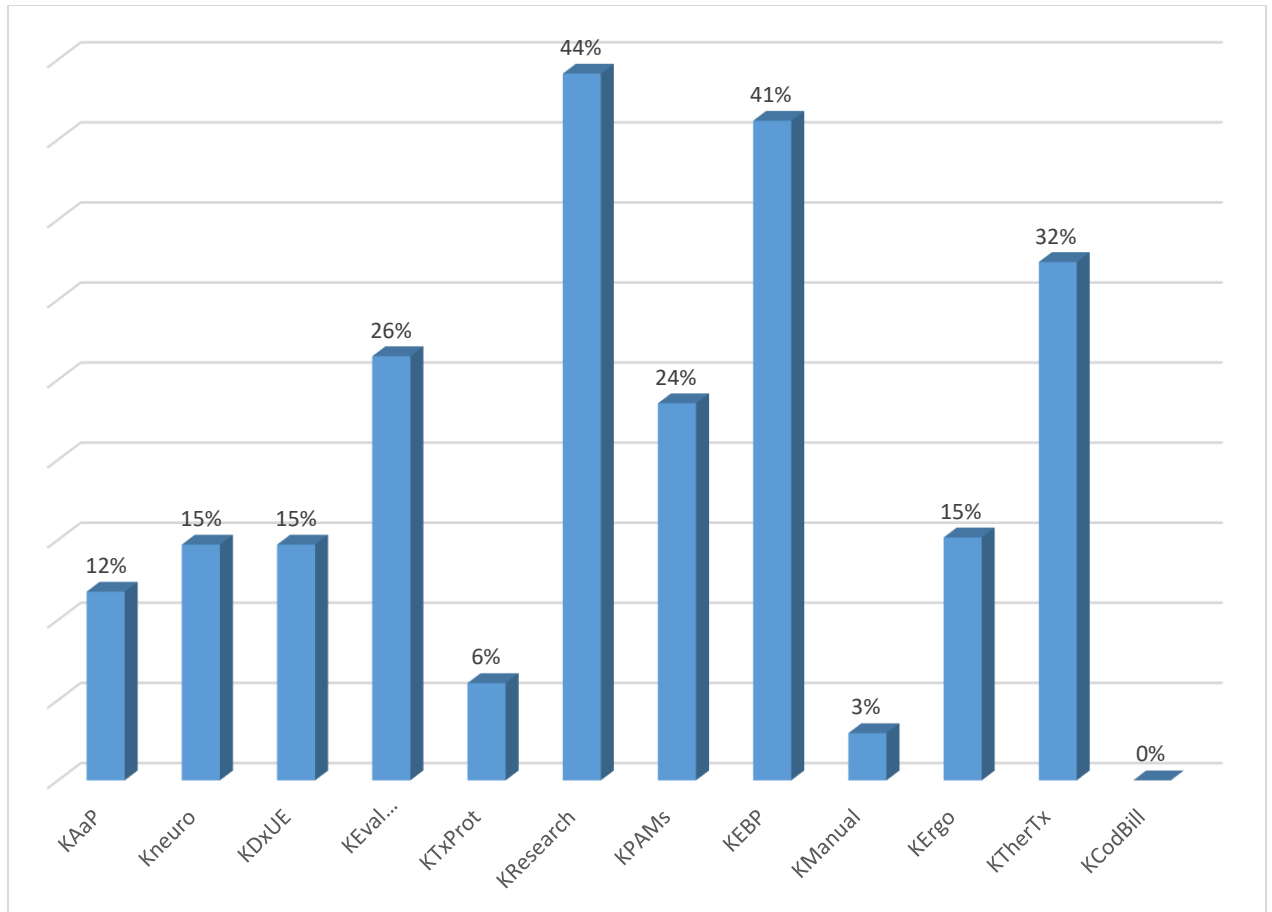
Figure 5. Percentages of combined strong and very strong responses in the knowledge domain

Skills domain. Upon examining the number of strong and very strong skills combined (See Figure 6), the results indicate that 76% of the students were rated strong or very strong in professionalism, 47% were rated strong or very strong in therapeutic communication, and 44% were rated strong or very strong in documenting functional goals.
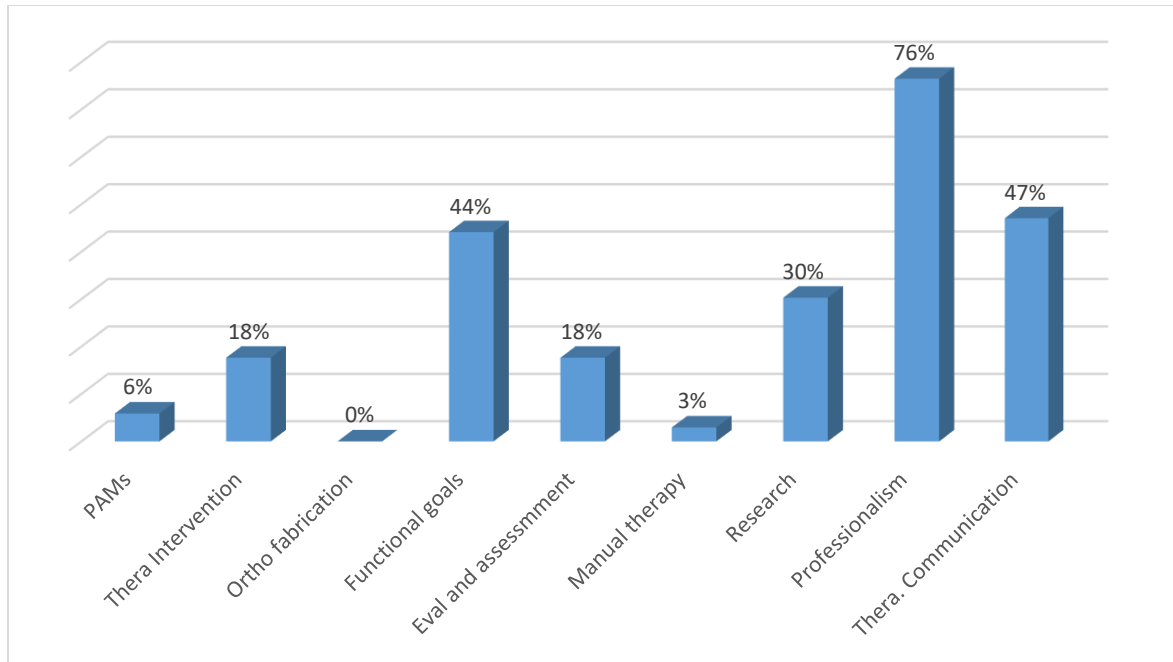
Figure 6. Percentages of combined strong and very stong responses in the skills domain

Part II: Training

  Description of the pilot fieldwork students and educators. The two students who participated in the pilot program were Masters students from two different schools. One student attended school in Georgia while the other attended a school in Florida. The fieldwork educators were both CHT's who worked for different physician-owned practices.

  Pre and post-test on the billing and coding learning module. The students completed a pre-test before and after the billing and coding learning module (Appendix E). The test consisted of 10 questions and both students improved their test scores after viewing the PowerPoint presentation. Student A's score improved by 30% and student B's score improved by 10% (Figure 7)
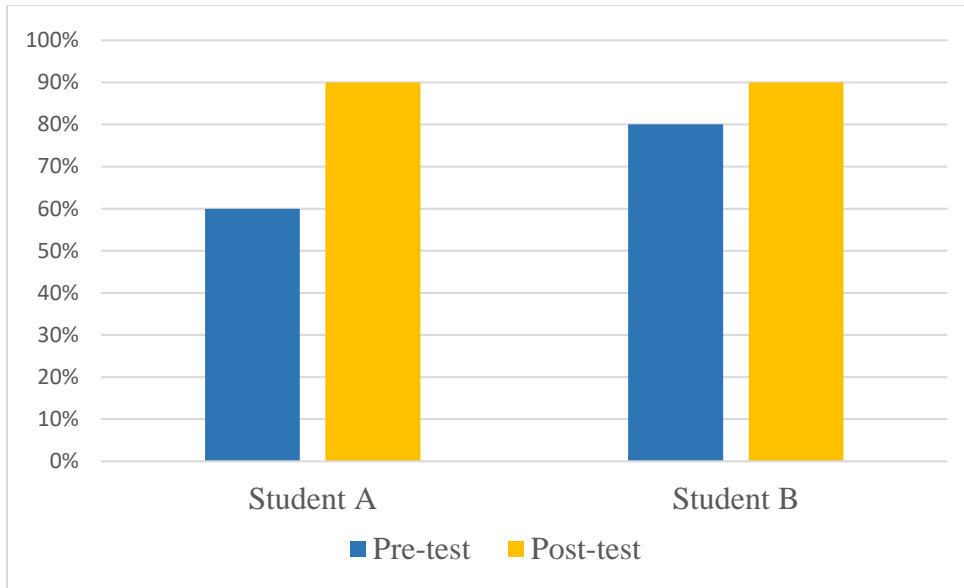
Figure 7. Pre and post-test scores for student A and student B

On the pre-test, two questions were answered incorrectly by both students. One of the items

referenced a deductible (question #4) and the other asked about a fee schedule (#8). Both

students answered one question incorrectly on the post-test, but they were not the same question.

On the post-test, Student A responded incorrectly to the question about the fee schedule

(question # 8) while Student B incorrectly answered the question about the deductible (question

#4).

Fieldwork educator evaluation of students. The fieldwork educators completed an

assessment of the students' performances (Appendix F) in regards to orthotic fabrication and

billing and coding at the midpoint of the fieldwork experience. Both students received a rating of

strong in orthotic fabrication. One student was rated strongly in billing and coding while the

second student received a very strong rating in billing and coding (Table 1).

Table 1

Fieldwork Educator Evaluation of Student Learning

Participant	Orthotic Fabrication	Billing & Coding
Student A	strong	very strong
Student B	strong	strong

Note: Completed after six weeks

Chapter 5

Discussion

Part 1: Survey

According to the Hand Therapy Certification Commission (2016), 85% of the certified hand therapists are occupational therapists, yet some occupational therapy education programs do not use hand therapy as a Level II fieldwork setting. The stated reasons for this are often anecdotal and have not been adequately studied. Occupational therapists who work in hand therapy clinics may believe that students are not prepared for this area of practice and thus, are reluctant to take students given the high-performance demands in the setting. Also, fieldwork coordinators and another faculty may claim that hand therapy is a specialized area of practice and that the occupational therapy curriculum does not allow for the advanced knowledge and skills needed in this setting. Lastly, students may feel they are not ready for a hand therapy fieldwork or may not receive the generalist experiences that are important to prepare for the certification exam should they be placed in a hand therapy clinic.

Faculty members may find themselves in situations where they have to explore previously avoided clinical rotations due to the number of available sites becoming more limited, especially in light of increased enrollments. If students were better prepared, then all the positive facets of having students might become more prominent, and the negative ones would fade into the background as student performances would increase. Extra training might help boost their hand therapy skills and provide them with a greater sense of self-confidence which has been linked to a higher level of achievement (Pittman & Lawdis, 2017). Fieldwork educators who have been hesitant to take students due to increased productivity and paperwork demands might become more open to accepting them. Last but not least, as more and more of the initial wave of

certified hand therapists retire, there may be less CHT's to fill their positions and provide

services to those needing it, may become even more scarce (Keller et al., 2016).

The study done by Short et al. (2018) identified areas of knowledge and skills that

universities should focus on to prepare students for a hand therapy rotation (Appendix A). If one

compares the results of Short's (2018) survey, with the one in the present study, there is virtually

no crossover between the identified items of weakness and the items that clinicians feel students

should be strong in (Table 2). These results seem to indicate that the universities are doing a

satisfactory job in educating their students in areas clinicians feel students need to be very strong.

Table 2

Comparison of Ratings of Importance and Weakness in Knowledge and Skill Domains

Knowledge Domain		Skill Domain	
Top Areas of Importance [1]	Top Areas of Weakness [2]	Top Areas of importance [3]	Top Areas of Weakness [4]
Anatomy/physiology (76%)	Billing & coding (47%)	Professionalism (84%)	Orthotic fabrication (44%)
Diagnoses relative to UE (38%)	Manual therapy (29%)	Therapeutic Communication (65%)	PAMs (29%)
Evaluation/assessment (36%)	PAMs (26%)	Evaluation/assessment (33%)	Manual therapy (26%)
Therapeutic intervention (32%)	Treatment protocols (26%)	Documentation (29%)	Research (6%)
Neuroscience (33%)	Ergonomics (9%)	Therapeutic intervention (29%)	Thera. Interventions & Professionalism (3%)

Note. 1 Ratings of 'very knowledgeable' by CHT's regarding level of knowledge the students should attain before being accepted for a formal rotation in hand therapy (Short et al., 2018). 2 Ratings of 'very weak' by OT's (Sokol, in press). 3 Ratings of 'very important' by CHT's regarding level of importance for students to attain before being accepted for a formal rotation in hand therapy (Short et al., 2018). 4 Ratings of 'very weak' by OT's (Sokol, in press).

The skills identified as ones students should be very strong in before being assigned a Level II fieldwork experience in hand therapy were professionalism (84%), therapeutic communication (65%), evaluation and assessment (33%), documentation (29%) and therapeutic intervention (29%) (Short et al., 2018). The results of this study's survey indicated that clinicians felt students were not very weak in any of those areas. Again, it appears that the schools are doing a satisfactory job in educating students in the needed skills for a hand therapy Level II fieldwork experience. The present study identified other skills that might improve with extra training.

With all the requirements that NBCOT has put in place and the likely coming of the mandatory doctoral degree, there may not be enough time to fit added information into the curriculum. That is where independent training modules could prove useful. By identifying those areas that clinicians felt students were very weak in, additional modules could focus on those specific areas rather than others that do not appear to be needing further reinforcement or education. These results seem to indicate that students are not very weak in areas clinicians feel they need to be very strong in but are very weak in other areas that could impact their performance in a hand therapy fieldwork placement.

Part 2: Training modules

There were two participants in this part of the project which completed the two learning modules: a narrated PowerPoint presentation on billing and coding and videos that demonstrated techniques used in orthotic fabrication. The results of the pre and post-tests showed that learning occurred as a result of the PowerPoint presentation as both participants' scores increased on the post-test.

Both students were rated "strong" in their orthotic fabrication skills by their fieldwork educators at the six-week mark. The result is significant since this skill was rated "very weak" in the initial survey by 39% of the respondents. One student was rated "strong," and one was rated "very strong" in regards to coding and billing on that same student assessment which may be even more significant as 46% of the participants in the survey felt students were very weak in billing and coding. The assessments seem to show that students' orthotic fabrication skills and knowledge of billing and coding can increase if extra training that targets those areas is available to them.

This project was as much a learning experience for me as it was for the participants. It provided an opportunity to use much of what was learned over the past three years and apply it to a larger project as opposed to the individual practical application projects. For example, combining activities that are supported by the research to enhance learning (Advanced Evidenced Based Practice) with learning theories that have been shown to be applicable in an online environment (Education Methods and Practices). Overall, the project accomplished what I had hoped for, although on a much smaller scale than I expected. The fall semester might not have been the best time to recruit students. Although it might have been helpful to know when the majority of students are doing fieldwork experiences, in the hopes of recruiting more participants, the timing of the St. Kate's program might not have allowed for that kind of flexibility.

Level II fieldwork is designed to prepare students for entry-level practice in a variety of settings. Shortages of available fieldwork settings can impact educational institutions, students and clients needing occupational therapy services. The schools may have to limit the number of students it admits, and students may be disappointed with their fieldwork assignments. If the

number of students is limited, then this may eventually translate into less occupational therapy

services available for clients who may need it.

Authors have suggested a variety of reasons for the shortage. It may be due, in part, to the

increased number of students needing fieldwork placements. The actual number of available

fieldwork sites may be decreasing. Groups have reported that cost reductions, changes in

reimbursement, and increased productivity demands all play a part in decreasing the number of

available fieldwork sites. For example, changes in reimbursement affected staffing levels, so

fewer therapists were available to supervise students. In another study, clinical supervisors

identified staffing challenges as the main obstacle to accepting students (Vogel et al., 2004).

As a result of these challenges, academic programs may want to explore other fieldwork settings,

including hand therapy that they have not previously pursued and focus on removing some of the

barriers and challenges to placing students in these settings.

Limitations

There were some limitations and challenges of the project. First, the limited size of the

participants, especially in the second part of the project. The survey done in the first part of this

project was completed by therapists who were mostly from the southeast and mostly CHT's. The

participants may not be an accurate representation of the fieldwork educators supervising

students across the country. Along those same lines, the participants in this survey were all

occupational therapists. The survey used by Short et al. (2018) as a basis for this study

(Appendix A) was completed by both physical and occupational therapists. Areas identified as

needing to be very strong might be different in a survey completed by occupational therapists

Future Research and Program Development

In the future, it would be better to repeat the survey with a greater number of participants to increase the power of it and certainly to recruit a greater number of participants to participate in the extra training. Adding a control group to the study would help increase its validity. However, fieldwork sites may be hesitant to take part in the research if they feel they may have a student who is not able to take advantage of the extra training.

Also, it might be better to have the fieldwork educators evaluate the student at the 3 or 4-week mark as I was concerned that the experience of working for six weeks before being evaluated might have been too long a period to wait as performances might have improved by having more time in the clinic. Finally, it might also be helpful if clinicians identify students' weaknesses based on site-specific responses as those therapists working in private practice might have different needs than those working in a hospital or a physician-owned practice. In that way, different facilities could mold any extra training programs to meet their own needs.

 Conclusion

It does not appear that the number of available fieldwork sites will increase as a result of time and since the number of occupational therapy programs continue to increase, it is more likely that they will become more limited. As a result, it would be to the educational institutions' benefit to explore new settings and focus on enhancing the skills and knowledge of their students. In this way, fieldwork sites that have previously been reticent to accept students may be more likely to accept them.

Chapter 6

Reflection

In 2015, I traveled to China along with 12 other healthcare professionals to tour and learn about their healthcare system. On the way home, I began working on a program whereby I would return to China to teach hand therapy courses to the therapists there. By the time I got home, I had the whole program planned, and it was not far afterward that I realized, I did not have a clue as to what I was doing. Throughout my education at St. Catherine, I learned just how much I did not know and even though my doctoral project did not relate directly to teaching in China, a lot of what I did learn related to teaching in general which I do hope to do more of in the future.

The first course that significantly added to my skills and had a positive influence on my professional goals for the future was Educational Methods.   I remember starting to read the book before class started and thought I was dead in the water, for sure. I was never one to take much of an interest in theories or philosophy. I taught continuing education courses around the country for 30 years and not once did I look at any learning theories to guide me. I do not believe I even knew of their existence. I delivered the courses in a manner I thought would work best (aka gut instinct). My practical project consisted of evaluating different theories and utilizing them in a way that would enhance student learning. In developing a module on mentorship, I incorporated certain activities into the training because I knew why they were evidence-based and had been shown to increase learning.   I am now more sensitive to teaching techniques that can enhance student learning under different circumstances and can utilize them with confidence instead of just relying on my gut instinct

I believe that my program development skills benefited from the new knowledge I attained in Organization and Administration. I can look back at my most recent experience as a

program director and can identify things I might have done differently. I had taken an

organization course as part of my Master's program 20 years ago, but it was not focused on

occupational therapy, and the present healthcare environment is not anything near what it is

today. In Organizational Administration, I learned the importance of conducting a thorough

needs assessment and the steps involved in program development.   I had not done any type of

needs assessment before developing a basic hand therapy course. As an example, I did not

investigate beforehand if different parts of the country had different needs for continuing

education nor did I evaluate if hand therapy surgery and practices were different around the

country.   I see this as being especially important if I am to return to China in the future. There is

so much that I would need to consider in developing a course that would be appropriate. For

example, in China, occupational therapy as a profession is not an independent group but is under

the auspices of the Ministry of Health. As a result, it has little autonomy and authority in regards

to its professional issues. The Ministry of Health has to approve any courses being taught as

well as the individual teaching it. Also, most therapists in China are "rehabilitation therapists"

since just until recently; there were no individual occupational therapy or PT programs. My

agenda as I pictured would not have worked in light of the education the rehabilitation therapist

received and the tools available to them.

In Occupation and Justice, I learned about the inequality in the distribution of healthcare

services and specifically occupational therapy services in different cultures. In China, healthcare

appears to be heavily rationed in favor of urban residents. Citizens' receive benefits based on the

area in the country where they live, and those who live in the cities receive more benefits. Since

occupational therapy is not offered in rural areas, when one combines the lack of access AND

lack of coverage for the services, it became clear that citizens cannot easily access occupational

therapy services. The citizens who live in rural areas who suffer a traumatic hand injury are

often at the mercy of poorly trained rehabilitation therapists who may or may not have had any

training in orthopedics. Most of their training was not done within an institution but was done by

a neurologist and focused on what the neurologist thought was correct appropriate therapeutic

intervention. In my doctoral project, I came to understand how the shortage of available

fieldwork sites affects universities and how that can eventually impact our profession and the

delivery of services to people who need them.

        Another area of importance I became more familiar with throughout my education was

evidenced-based practice (EBP) and its impact on both teaching and practice. When I started

this program, I had an aversion to anything or anyone that even mentioned EBP. I felt that its

proponents adhered to an "all or nothing" principle regarding its effect on clinical practice. In

my mind, this negated the mind-body connection, and the therapist's experience that I felt should

be taken into account. Suddenly every continuing education course had to mention EBP

somewhere in its title or, at the very least, within its objectives. I, on the other hand, paid very

little attention to it. I used techniques that I found had been successful through my years of

practice, regardless of the evidence that was or was not there. Now, at the end of these three

years, I have moved a little more to the center, especially since learning that the definition of

EBP has expanded to include therapists' experiences and the contextual issues related to the

patient. I have a better understanding of the studies I have read and can unravel them enough to

decide what if anything I should change in my practice as a result. As I was developing the

orthotic video, I discussed the evidence that impacted the clinical decision-making process in

deciding the type of orthosis that was appropriate for two different patients. I incorporated what

I learned into my practice as well. When a young therapist and I disagreed on the course of

treatment for a patient, I did a literature search, sent her the results of what I found, and after discussing it, we arrived at a mutually agreeable plan of care.

So, how will all this new knowledge and skills help me going forward? Now that I stepped down from my full-time management position, I hope to get back into teaching in some small way. More times than not, my best times were when I received feedback after a course that it is obvious I loved what I did and I still do. I get excited when I talk about it, and the students get excited as well. It was always such a great feeling. Unfortunately, the field of education is moving more and more towards online courses which are not something I have any interest in doing. Knowing that schools (as well as all businesses) are looking to trim costs, I have begun to wonder if there is a need for people to guest lecture at the universities and teach short-term courses that are focused on specific topics. I recently spoke to a physical therapist who is doing just that, and he offered me advice on how to start investigating that possibility. Of course, I have not given up on my dream of returning to China to do some teaching. If the opportunity does present itself, I do not doubt that I will be much better prepared as a result of having received my doctoral degree at St. Catherine's University.

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Appendices

Appendix A

Survey

Survey given to clinicians to determine weaknesses in Level II fieldwork students

I am an: OT ____   PT ____   I am a CHT: Yes ____   No ____

How many Level II Fieldwork students have you supervised or co-supervised in a hand therapy clinic in the past 5 years?

____ 0 students

____ 1-3 students

____ 4 or more students

Instructions

The purpose of this survey is to identify Level II fieldwork students' strengths and weaknesses at the beginning of a hand therapy fieldwork experience. It is adapted with permission from the survey used by Short et al (2017) in their study of hand therapy fieldwork.

Please circle the number that describes Level II fieldwork students' KNOWLEDGE levels <u>at the beginning of their hand therapy fieldwork experience</u>.

1= Very Weak   2 = Weak   3 = Neutral   4 = Strong   5 = Very Strong

Anatomy and physiology	1	2	3	4	5
Neuroscience	1	2	3	4	5
Diagnoses relative to the upper limb	1	2	3	4	5
Evaluation & assessment	1	2	3	4	5
Understanding of treatment protocols	1	2	3	4	5
Research design & statistics	1	2	3	4	5
Physical agent modalities	1	2	3	4	5
Principles of evidence-based practice	1	2	3	4	5
Manual therapy	1	2	3	4	5
Ergonomics	1	2	3	4	5
Therapeutic interventions (ROM, thera ex, etc.)	1	2	3	4	5
Coding & billing	1	2	3	4	5

Other recommended knowledge: (free text)

Please circle the number that describes Level II fieldwork students' SKILLS levels at the beginning of their hand therapy fieldwork experience

	1=Very Weak	2=Weak	3 = Neutral	4 = Strong	5 = Very Strong
Physical agent modality application	1	2	3	4	5
Therapeutic intervention application	1	2	3	4	5
Custom orthotic fabrication	1	2	3	4	5
Documenting functional goals	1	2	3	4	5
Evaluation & assessment technique	1	2	3	4	5
Manual therapy technique	1	2	3	4	5
Research design & application	1	2	3	4	5
Professionalism	1	2	3	4	5
Therapeutic communication	1	2	3	4	5

Other recommended skillsets (free text):

Note: Adapted from "Barriers and Solutions to Fieldwork Education in Hand Therapy," by N. Short, S. Sample, M. Murphy, B. Austin, and J. Glass, 2018. *Journal of Hand Therapy, 31, p.* 7-8. Copyright 2017 by Hanley & Belfus.

Appendix B

Survey

Survey to identify areas of knowledge and skills clinicians feel Level II students should have used by Nathan Short et al. (2018)

Areas of recommended knowledge (*n* = 1772)

Rate each of the following knowledge areas in terms of level of knowledge the students should attain before being accepted for a formal rotation with a CHT			
Answer options	**Very knowledgeable (%)**	**Some knowledge (%)**	**Introduction to knowledge (%)**	**No knowledge (%)**
Anatomy and physiology	76	20	2	2
Neuroscience	23	60	16	1
Diagnoses relative to the upper limb	38	48	13	1
Evaluation & assessment	36	51	12	1
Understanding of treatment protocols	15	45	35	5
Research design & statistics	4	27	54	15
Physical agent modalities	17	48	32	4
Principles of evidence-based practice	21	52	25	2
Manual therapy	12	44	38	7
Ergonomics	7	42	45	5
Therapeutic interventions	32	50	17	1
Coding & billing	3	26	49	22

Areas of recommended skill set (*n* = 1771)

Rate each of the following skill sets in terms of importance for students to develop before being accepted for a formal rotation with a CHT			
Answer options	**Very important (%)**	**Important (%)**	**Neutral (%)**	**Unimportant (%)**
Physical agent modality application	15	48	31	5
Therapeutic intervention application	29	58	12	1
Custom orthotic fabrication	16	57	24	3
Documentation	29	55	14	1
Evaluation & assessment technique	33	57	10	1
Manual therapy technique	11	52	33	4
Research design & application	4	22	56	18
Professionalism	84	14	2	1
Therapeutic communication	65	31	3	1

Note: Reprinted from "Barriers and Solutions to Fieldwork Education in Hand Therapy," by N. Short, S. Sample, M. Murphy, B. Austin, and J. Glass, 2018. *Journal of Hand Therapy, 31, p.* 7-8. Copyright 2017 by Hanley & Belfus.

Appendix C
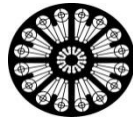
ST. CATHERINE UNIVERSITY

ST. CATHERINE UNIVERSITY REQUEST FOR APPROVAL
FOR THE USE OF HUMAN SUBJECTS IN RESEARCH APPLICATION

IRB APPLICATION DOCUMENT CHECKLIST

The items listed below are the application, forms and supporting documents to be uploaded to Mentor IRB for your protocol/application submission. Consent forms and additional supporting documents may be uploaded to separately; see Mentor IRB Directions. For questions, contact the IRB Assistant at 651-690-6204 or irb@stkate.edu.

☐	IRB Application
☐	PI Documentation/CITI Training for Investigator(s)*
☐	PI Documentation/CITI Training for Faculty Adviser (if applicable)*
☐	Informed consent form
☐	Child assent form (if applicable)
☐	Recruiting materials (phone script, fliers, ads, etc.)
☐	Survey/questionnaire(s), focus group or interview questions (if applicable)
☐	Conflict of interest/financial interest disclosure (if applicable)
☐	Letter(s) of support (if you are conducting research at another agency, school, etc.).

*PI Documentation/CITI Training is the completion report received for fulfilling the required Human Subjects Research education requirements in CITI Program. Each person will need to

upload their PI Documentation to their individual Mentor IRB account. Directions are located in Mentor IRB.

ST. CATHERINE UNIVERSITY

ST. CATHERINE UNIVERSITY REQUEST FOR APPROVAL FOR THE USE OF HUMAN SUBJECTS IN RESEARCH APPLICATION

Complete the following application in its entirety. You may excerpt material from your thesis or grant proposal, but your application should be relatively concise. Consent forms and additional supporting documents may be uploaded to separately; see Mentor IRB Directions. For questions, contact the IRB Assistant at 651-690-6204 or irb@stkate.edu.

Date of application:	March 9, 2018

Investigator name(s) and credentials (e.g., PhD, RN, etc.): (*List all co-investigators*)

Dorie B. Sokol, MS, OT, CHT

Project Title:	A Training Program for Students Scheduled for a Hand Therapy Fieldwork Experience

Department:	Occupational Therapy	

Level of Review:

In the Mentor IRB system, you must select the Review Type; selecting Exempt and Expedited will prompt additional questions for you to fill out. The default level of review is full if not selected.

For more information on the levels of review, go to the Mentor IRB Info page: [*Determine the Level of Review*](#)*.*

X	**Exempt**		**Expedited**		**Full**

Has this research been reviewed by another IRB?

	Yes	X	**No**

If YES, you may not need to complete a St Kates IRB application and may be able to use your external IRB application instead. Please include a copy of the letter of approval and approved IRB application from the external IRB with your Mentor IRB submission, or indicate the status of your application here. Contact the IRB coordinator at IRB@stkate.edu with any questions. Examples: "See attached" or "Pending approval"

Will this research be reviewed by another IRB?

	Yes	X	**No**

If YES, please indicate your plans for review

Note: *Cooperative Research is when a research protocol requires approval from outside institutions (e.g., a hospital IRB or other college/university) as well as St. Catherine University. Sometimes it is possible for an IRB to accept an external IRB's review to reduce duplication of review effort. Contact the IRB coordinator at IRB@stkate.edu if you have questions about cooperative research and how to determine when only one IRB will need to review your IRB application. You can also reference the Cooperative Research Policy Addendum:*

1. **RESEARCH SUMMARY:** *Complete each section in clear, easy to read language that can be understood by a person unfamiliar with your research and your field.*

a.   <u>Purpose of the research:</u> *Provide a clear, concise statement of your purpose.*

> The long term objective of this project is to increase the availability of hand therapy fieldwork opportunities by providing students with additional training prior to their starting their fieldwork experiences in hand therapy. The training modules will be based on the identified knowledge and skills needed by students as reported by hand therapists who complete a brief survey.

b.   <u>Background:</u> *Provide a concise summary in 1 - 2 brief paragraphs to explain the importance of the research and how it fits with previous research.*

> In a study of hand therapy fieldwork, clinicians rated the areas of knowledge and skills they felt students needed to be very strong in. However, the respondents did not identify areas of knowledge and skills that the students were actually strong or weak in. Of significant importance was that clinicians felt that they would be more likely to accept students if they had better preparation (Short et al., 2017).
>
> St. Catherine has an OT program called FIRE that prepares students for fieldwork experiences in acute care rehabilitation. The findings from this survey would expand upon the present FIRE program to include a module for those students wishing to do a fieldwork experience in hand therapy.
>
> There seems to be agreement across studies, both nationally and internationally that available fieldwork sites are becoming fewer in number.   Some studies cite suggestions made by clinicians and their desires in regards to better student preparation prior to the start of fieldwork (Evenson et al., 2015; Jensen & Daniel, 2010). The findings from this survey research will support better student preparation prior to a hand therapy fieldwork experience.

c.   <u>Research Methods and Questions:</u> *Give a general description of the study design and specific methods you will use in your investigation. Specify all of your research questions and/or hypotheses. Reviewers will consider whether the information you are gathering is necessary to answer your research question(s), so this should be clear in your application.*

> Research Questions:
> 1.   What are the perceptions of hand therapists regarding the level of knowledge that occupational therapy students have at the beginning of their fieldwork?
>
> 2.   What are the perceptions of hand therapists regarding the skills that occupational therapy students have at the beginning of their fieldwork?
>
> The survey used in the proposed study is adapted from the survey by Short et al. (2017). Short has granted permission to use and adapt the original survey for the purposes of this study (see attached email). Hand therapists who are attending a regional conference will be invited to complete a brief survey. The survey asks them to rate their overall perception of the strengths or weaknesses of typical students' knowledge and skills at the

beginning of their fieldwork experiences in hand therapy. The survey has 2 forced choice demographic questions, 12 Likert scale knowledge questions, 9 Likert scale skill questions, and 2 open-ended questions regarding additional knowledge or skills identified as lacking by respondents. The Likert scale items have 5 response alternatives ranging from very weak to very strong.

The study will be presented to clinicians who are attending the annual conference of the Georgia Hand and Upper Extremity Special Interest Group (GHUESIG) in Savannah, GA on 4/27-28 and all participants will be given the survey and an invitation to participate, should they wish to do so. The data will be collected, analyzed, and used to develop the training module.

The aggregate data for each item on the survey will be summarized by frequencies and percentages for each Likert scale rating. Findings from the survey will be used to identify the content that needs the most coverage in the learning module.

Short, N., Sample, S., Murphy, M., Austin, B., & Glass, J. (2017). Barriers and Solutions to Fieldwork Education in Hand Therapy. *Journal of Hand Therapy*.

d.   **Expectations of Participants:** *Give a step by step description of all procedures that you will have participants do. Attach any surveys, tests, instruments, interview questions, data collection forms, etc. that you will use with participants.*

1. On Friday, April 27, just prior to the lunch break, I will read a script that invites participants to complete the survey. I have been given permission to read the script at the conference by a conference organizer. (Please see attached script and email granting permission).
2. During the lunch break, surveys (with a copy of the introductory remarks and contact information attached) will be placed on each participant's seat. Participants will be asked to place completed surveys in a box placed at the registration desk. (Please see attached survey)
3. At the end of the day, I will gather the surveys that have been submitted in the survey box and place them in a secure location until the end of the conference.

e.   **Estimated Time Commitment for Participants:**

1	**Number of sessions for each participant**
10 minutes	**Time commitment per session for each participant**
10 minutes	**Total time commitment for each participant**

f.   **Access to Existing Data:** *If you are analyzing existing data, records, or specimens, explain the source and type, means of access, and permission(s) to use them. If not accessing existing data, indicate "NA"*

NA

2. SUBJECTS: *Provide your best estimates below*.

a. <u>Age Range</u> of Subjects Included:

25-70

b. Number: Estimate # of male and female
(Indicate a range, or maximum, if exceeded, you will need to submit an amendment)

    15   Male   65   Female   80   Total

c. <u>Target Population</u>: Describe your target population (the group you will be studying; e.g. seniors, children ages 9-12, healthy adults 18 or over, etc.)

Hand therapists between the ages of 25 and 70 who have supervised at least one level II student in a hand therapy setting in the previous 10 years.

d. <u>Specific Exclusions</u>: *If women and/or minorities are to be excluded from the study, a clear rationale should be provided in section "f" below*.

None

e. <u>Special Populations Included</u>: *Select any special population that will be the focus of your research*.
NOTE: *These groups require special consideration by federal regulatory agencies and by the IRB*.

☐ **Minors (under age 18)**	☐ **HIV/AIDS patients**
☐ **St. Catherine Employees**	☐ **Economically disadvantaged**
☐ **Students**	☐ **Educationally disadvantaged**
☐ **Pregnant women**	☐ **Hospital patients or outpatients**
☐ **Elderly/aged persons**	☐ **Prisoners**
☐ **Cognitively impaired persons**	

☐ **Minority group(s) and/or non-English speakers**
(please specify) _____

‾‾‾‾

☐ **Other Special Characteristics and Special Populations**
   (please specify) _____

f. Provide reasons for targeting or excluding any special populations listed above.

+--+
| |
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g. Do you have any conflict of interest (financial, personal, employment, dual-role) that could affect human subject participation or protection? *Dual-role examples: faculty–student (does not apply to action research projects for education students), medical practitioner-patients, supervisor-direct reports, etc.*
   ☐ **Yes**   X **No**

If Yes, please indicate the steps you will take to minimize any undue influence in your research, recruitment and consent process. You can also reference the university Financial Conflict of Interest policy: https://www.stkate.edu/pdfs/orsp-policy-fcoi.pdf

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3. RECRUITMENT: LOCATION OF SUBJECTS *(Select all that apply)* **:**

☐ **St. Catherine University students**

☐ **School setting (PreK – 12)**

☐ **Hospital or clinic**

☐ **Other Institution** *(Specify)***:** _____

X **None of the above** *(Describe location of subjects)***:**
   Participants will be recruited from a group of 80 attendees at the Georgia Hand and Upper Extremity Special Interest Group (GHUESIG) annual conference in Savannah Georgia in April, 2018.

NOTE: *If subjects are recruited or research is conducted through an agency or institution other than St. Catherine University, submit either written or electronic documentation of approval and/or cooperation. An electronic version should be sent from the email system of that particular institution. The document should include the name of the PI, Title of the approved study, as well as the name and title of the appropriate administrator sending the approval. You should include an abstract/synopsis of your study when asking for approval from an external institution.*

a. **Recruitment Method:** *Describe how you will recruit your subjects? Attach a copy of any advertisement, flyer, letter, or statement that you will use for recruitment purposes.*

All the participants will be given surveys after a brief introduction and explanation by this researcher.

b. **Incentives:** *Will the subjects be offered inducements for participation? If yes, explain. Note: Please contact the ORSP office about the use of incentives within your research, as there are important university policies that fall outside of the protection of human subject,* orsp@stkate.edu *or x6156*
Incentive policy link: *https://www.stkate.edu/pdfs/participant-incentives-policy-and-procedures.pdf*

None

4. **RISKS AND BENEFITS OF PARTICIPATION**

a. **Select all that apply. Does the research involve:**
   [ ] **Use of private records (medical or educational records)**

   [ ] **Possible invasion of privacy of the subjects and/or their family**

   [ ] **Manipulation of psychological or social variables**

   [ ] **Probing for personal or sensitive information in surveys or interviews**

   [ ] **Use of deception**

   [ ] **Presentation of materials which subjects might consider offensive, threatening or degrading**

_____

☐ **Risk of physical injury to subjects**

☐ **Other risks:**

b. <u>**Risks:**</u> *Briefly describe the risks of participation in your study, if any. Describe the precautions taken to minimize these risks. Please use "no foreseeable risk" rather than no risks.*

> No foreseeable risk.

c. <u>**Benefits:**</u> *List any anticipated direct benefits to your subjects. If none, state that here <u>and</u> in the consent form.*

    1. Direct Benefits: *List any anticipated direct benefits to your subjects. If none, state that here <u>and</u> in the consent form.*

> None.

    2. **Other Benefits:** *List any potential benefits of this research to society, including your field of*

       Study.

> This may result in better preparation of St. Catherine's and other fieldwork students who are scheduled for fieldwork experiences in hand therapy. Subsequently, there may also be an increase in hand therapy fieldwork sites willing to take students.

d. <u>**Risk/Benefit Ratio:**</u> *Justify the statement that the potential benefits (including direct and other benefits) of this research study outweigh any probable risks.*

> None

e. <u>**Deception:**</u> *The use of deception in research poses particular risks and should only be used if necessary to accomplish the research, and when risks are minimized as much as possible. The researcher should not use deception when it would affect the subject's willingness to participate in the study (e.g, physical risks, unpleasant emotional or physical experiences, etc).*

Will you be using deception in your research?

| | Yes | X | No

If yes, justify why the deceptive techniques are necessary in terms of study's scientific, educational or applied value. Explain what other alternatives were considered that do not use deception and why they would not meet the researcher's objective. Attach a copy of a debriefing statement explaining the deception to participants.

5. **CONFIDENTIALITY OF DATA**

a.   **Will your data be anonymous?**
| X | Yes | | No

(*Anonymous data means that the researcher cannot identify subjects from their data, while confidential data means that the researcher can identify a subject's response, but promises not to do so publicly.*)

b. *How will you maintain anonymity/confidentiality of the information obtained from your subjects?*
Interview Example: I will assign pseudonyms to each interview participant. I will de-identify the data, and store the key separate from the recordings and transcripts. I will have the transcriptionist sign a confidentiality statement

Participants will not be putting their names or any identifying information on the survey.

c.   **Data Storage:** *Where will the data be kept, and who will have access to it during that time? Examples: I will store audio files and electronic files on a password protected computer or cloud (indicate which; please avoid using flash drives as they are the one of the hardest 'tools' to protect and one of the easiest to exploit or lose, it is suggested to encrypt data on the cloud such as use a file password). I will store all*

paper files in a secure location (a locked filing cabinet) that is accessible only to myself and my advisor.

> The paper surveys will be kept in my home in a locked file cabinet. Electronic files summarizing aggregate data will be kept on my personal, password protected computer at home.

d. **Data Destruction***: How long will it be kept? What is the date when original data will be destroyed? (All studies must specify a date when original data that could be linked back to a subject's identity will be destroyed. Data that is stripped of all identifiers may be kept indefinitely). Example: I will destroy all records from the study within six months of the conclusion of the study but no later than June 2017.*

> I will destroy all original surveys from the study within six months of the conclusion of the study, but no later than June 2019.

e. **Availability of Data:** *Will data identifying subjects be made available to anyone other than you or your advisor? If yes, please explain who will receive the data, and justify the need. Example: The data will only be available to me and my advisor.*

> There will be no identifying data on the survey.

f. **Official Records:** *Will the data become a part of the medical or school record? If yes, explain.*

> No.

6. **INFORMED CONSENT**

a. **How will you gain consent?** *State what you will say to the subjects to explain your research.*

> See attached introductory remarks that I will be delivering to all attendees at the conference as it will be attached to each survey.

b. **Consent Document:** *Attach the consent or assent form or text of oral statement. A template is available in Mentor IRB. Example: "See attached"*

> See attached introductory remarks. The introduction will also be available in a paper format at the conference. And attached to every survey.

c. **Timing of Consent Process:** *Note: In studies with significant risk or volunteer burden, the IRB may require that subjects be given an interim period of 24 hours or more before agreeing to participate in a study*

d. **Assurance of Participant Understanding:** *How you will assess that the subject understands what they have been asked to do* (Note: *It is not sufficient to simply ask a yes/no question, such as "do you understand what you are being asked to do?")*

The students will be given a chance to ask questions both individually and within the group, after the introductory remarks are completed.

7. **CITI TRAINING –** *Work with your faculty advisor or contact IRB@stkates.edu if you have any questions about whether you should complete additional training modules within CITI. You can also reference the HSR Mandatory Education Policy: https://www.stkate.edu/pdfs/irb-human-subject-research-education.pdf*

   a. **Select all the CITI training courses/modules you completed:**

   REQUIRED COURSE:
   Human Subject Research Training Course – only one course is required

   | X | **Human Subject Research - Social & Behavioral Research Investigators** |

   | | **Human Subject Research - Education Action Research Program** |

   | | **Human Subject Research - Biomedical Research Investigators** |

   OPTIONAL MODULES:

   | | **Financial Conflict of Interest Course (suggested if you answered YES to Section 2 part g)** |

☐ **Avoiding Group Harms - U.S. Research Perspectives (suggested if you checked any special populations in Section 2 part e)**

☐ **International Research (suggested for PIs doing research outside of the US that is NOT federally funded)**

☐ **International Studies (suggested for PIs doing research outside of the US that IS federally funded)**

☐ **Cultural Competence in Research (suggested when conducting research across cultures, i.e. with a population that is culturally different from one's own)**

☐ **Internet Based Research (suggested for PIs using internet resources during their research (outside of recruitment) – Skype, survey tools, internet activity monitoring, etc)**

☐ **Other (prisoners, pregnant women, children):**

8. ASSURANCES
By submitting this application, the researcher certifies that:

- **The information furnished concerning the procedures to be taken for the protection of human subjects is correct.**
- **The investigator has read the IRB policies and to the best of his/her knowledge, is complying with Federal regulations and St. Catherine University IRB Policy governing human subjects in research.**
- **The investigator will seek and obtain prior written approval from the IRB for any substantive modification in the proposal, including, but not limited to changes in cooperating investigators, procedures and subject population.**
- **The investigator will promptly report in writing to the IRB any unexpected or otherwise significant adverse events that occur in the course of the study.**
- **The investigator will promptly report in writing to the IRB and to the subjects any significant findings which develop during the course of the study which may affect the risks and benefits to the subjects who participate in the study.**
- **The research will not be initiated until the IRB provides written approval.**
- **The term of approval will be for one year. To extend the study beyond that term, a new application must be submitted.**
- **The research, once approved, is subject to continuing review and approval by the IRB.**

- **The researcher will comply with all requests from the IRB to report on the status of the study and will maintain records of the research according to IRB guidelines.**
- **If these conditions are not met, approval of this research may be suspended.**

A TRAINING PROGRAM FOR STUDENTS
SCHEDULED FOR A HAND THERAPY FIELDWORK EXPERIENCE

IRB Application/
Protocol ID   1044

PI   Dorie Sokol

PI Type   Student **Faculty/Research**
Advisor   Julie Bass 03/12/2018

Faculty/Research
Advisor   Accepted

Appendix D.1

PowerPoint Handout

Types of insurance plans
- HMO- Health Maintenance Organization
    - Patient has little choice of provider; all medical services are usually provided in one building
- PPO - Preferred Provider Organization
- Open access
    - Costs the most
    - Patient has 100% choice
    - Patient typically is responsible for a percentage of the bill

Helpful terminology
- Deductible – how much patient must pay out of pocket before insurance starts paying
- Co-insurance – The patient/insurance company share the cost of the treatment, each paying a certain percentage of the bill (i.e. 80/20)
- Co-pay – patient pays a certain flat rate at every visit

What is the difference between an HMO and PPO?
An HMO is more restrictive in terms of choices of providers, locations, services, etc.

Private Insurance Companies
- Blue Cross/Blue Shield, Aetna, United, Humana
- Usually provided (at a cost) by one's employer
- Type of plan (HMO vs. PPO), deductible, drug coverage etc. are all chosen by the company one works for and can vary tremendously

What is Medicare?
- Medical insurance provided through the government when you turn 65
- Annual deductible- $1340/year for Part A and $183 for Part B
- Safety issues must be documented

Medicare Replacement Plans
- Can be issued by various commercial insurance companies (i.e. Kaiser Senior Advantage)
- Could have a co-pay or co-insurance and deductible
- Coverage varies in what is provided between the different plans and what they cost

Medicare Supplemental Insurance
- Patients buy this "extra" insurance to cover things that Medicare does not, i.e. deductibles, co-pays
- It is offered through many different insurance companies and is usually labeled Plan A, Plan B, Plan C, etc.
- All the plans offer a package of different benefits
- Not all packages are available in all the states

Workers Compensation

- For workers injured while they are at work, employers have to purchase it in most states
- Provides medical care, temporary disability benefits, payment for lost wages
- Injured employee is not responsible for any portion of the bill that is related to the work injury
- Each state has its own workers compensation board that decides benefits, limitations, etc. and how much providers will be paid for services

MVA
- Patient usually has 3 options
- Bill the patient's med pay (medical coverage through their car insurance)
- Bill the patient's health insurance.
- Many times, when the health insurance realizes that this is due to an MVA they will refuse to pay the claim and/or ask for their money back.
- The patient can pay the self pay rate

Medicaid
- Insurance for people who do not have any or cannot afford it
- Administered by individual states all of whom make their own rules
- Who qualifies – how much income and assets individual has and how much it costs
- What is covered
- Not every organization/facility accepts Medicaid insurance
- Offers the same medical benefits as Medicare

Which insurance is provided by the federal government? Medicare
Which insurance is controlled at the state level? Medicaid (government) and workers compensation (workers compensation board)

How are patients charged for our services?
- When a therapist treats a patient a charge is generated using special codes, called CPT codes.
- CPT codes are either service based or time based
- Service based are flat rate charges no matter how much time you spend with the patient (i.e. fluidotherapy, paraffin)
- Time based charges depend on how much time you spend with the patient

CPT Codes
- Common service based codes
- 97165: OT evaluation, low complexity
- 97168: OT re-evaluation
- 97016: vasopneumatic device
- 97018: paraffin

You spend 45 minutes with a patient that includes 30 minutes of ADL training and 15 minutes of therapeutic exercises.
What do you charge the patient?
Therapeutic ex: 1 unit,
ADL Training: 2 units

How are the charges entered into the billing system?
- Through electronic medical record documentation
- Fee tickets

OT Evaluation codes

97165 – OT evaluation – low complexity

97166 – OT evaluation – moderate complexity

97167 – OT evaluation – high complexity

How is complexity determined?
- Profile and history
- Assessment of occupational performance
- Level of clinical decision making

How are Medicare patients billed?
- Based on total amount of time you spent with the patients engaged in time based services
- If you spend 10 minutes doing ADL training, 10 minutes doing neuromuscular re-education and 10 minutes doing therapeutic exercises you can only charge a Medicare patients for 2 units of service as the total amount of direct treatment time is 30 minutes.
- Can add a service based charge to the total bill if appropriate

8 minutes rule
- 8-22 minutes: 1 unit
- 23-37 minutes: 2 units
- 38-52 minutes: 3 units
- 53-67 minutes: 4 units

How are other patients billed?
- Some follow the 8 minute rule
- Some are per CPT code – total time is not considered
- Some are flat rate – provider gets paid a flat rate per patient visit

How do we get paid for our services?
- Patients' portion
- Insurance company's portion

Patients' financial responsibilities
- Co-pay – a set amount the patient pays every time they receive the service. This is set by the insurance co.
- Co-insurance – a set percentage the patient is responsible for i.e. 20% with an 80/20 plan
- Patient pays total amount if the deductible has not been met

How do insurance companies pay providers?
- Private insurance companies usually pay providers according to an agreed upon fee schedule
- Medicare reimburses provider based on Medicare's payment schedule
- Worker's compensation reimburses provider based on fees set by the state worker's compensation board

Example – Blue Cross (80/20 plan)
- Pt. is billed $250 for OT services
- Due to agreement with insurance company, provider has to write off $100

- Bill is now $150
- Pt. pays 20% ($30) and insurance company pays 80% ($120) – assuming the patient has reached the deductible

Example – workers compensation patient
- Pt. is billed $250 for OT services
- Due to state mandated fee schedule, provider has to write off $100
- Bill is now $150
- Insurance pays it all
- Patient pays nothing

Example – Patient who has not reached deductible
- Pt. is billed $250 for OT services
- Due to agreement with insurance company, provider has to write off $100
- Bill is now $150
- Patient pays it all

Additional information
- Adaptive equipment
  - Not reimbursed by insurance 99.9 % of the time
  - Some facilities collect money from patients for supplies and keep some on hand
- Orthotics
  - Reimbursement varies between different insurance companies and between states for Medicare
  - Each facility will have its own policies and procedures regarding billing patients for orthotics

How does insurance coverage affect clinical reasoning?
- Patient cannot afford co-pays or co-insurance
- Patient has not met deductible and patient cannot afford to pay it
- Patient has limited visits
- Insurance does not cover orthotics
- Insurance does not cover certain treatments i.e. iontophoresis, ADL training

Case study 1
Pt. is 64 yo male who suffered a CVA affecting his right side and speech. He had 4 weeks of in-patient rehab., 6 weeks of home health and now is to continue with rehab. as an out-patient. He only 20 more visits of rehab this year that has to be shared between OT, PT and speech and has a $50 co-pay per service per treatment. How does that impact your treatment plan?

Things to consider
- What are the patient's goals
- What is the evidence?
- Length of time since stroke
- Costs
- Motivation
- Support system

Case study 2
You have a 20 year old patient with multiple flexor tendon repairs in his dominant hand. He has no insurance. What are your plans?

Things to think consider

- Patient preference, goal, motivation
- Payment plan available?
- Adapt the cast
- Provide orthosis and refer to local hospital that accepts indigent care
- Treat patient

Case study three

24 year old patient with acute lateral epicondylitis (tennis elbow). The evidence supports the use of iontophoresis but the patient's insurance company does not cover it. What are your options?

Things to think about

- Present other options to patient while explaining that ionto is not covered
- Discuss ordering ionto pads through Amazon
- Patient can pay for the ionto treatments out of pocket

Conclusion

- Be aware of the patient's goals
- Be aware of patient's insurance coverage
- Document to support your coding
- The correct coding/billing is important to the patient AND the provider
- Thank you and good luck!

Appendix D.2

OT Evaluation Complexity Chart

New CPT Code	Description	Profile and history	Assessment	Assist to complete eval?	Clinical decision making	Time estimate (min.)
97165	OT Eval Low complexity	Brief review of medical and therapy history No co-morbidities	1-3 performance deficits (physical, cognitive & psychosocial	None	Limited treatment options & decisions to be made	30
97166	OT Moderate Eval complexity	Expanded review of medical and therapy history Additional review of physical, cog., &/or psychosocial hx Comorbidities that may or may not affect occupational performance	3-5 performance deficits physical, cognitive & psychosocial	Min-mod	Detailed assessment with multiple treatment options	45
97167	OT Eval High complexity	Extensive review of medical and therapy history Additional review of physical, cog.,or psychosocial hx Comorbidities that may or may not affect occup. perf.	5 or more performance deficits (physical, cognitive & psychosocial	Max	High analytic complexity	60

Appendix D.3

L Codes

- L3806

   Wrist hand finger orthosis, includes one or more nontorsion joint(s), turnbuckles, elastic bands/springs, may include soft interface material, straps, custom fabricated, includes fitting and adjustment

- L3807

   Wrist hand finger orthosis, without joint(s), prefabricated item that has been trimmed, bent, molded, assembled, or otherwise customized to fit a specific patient by an individual with expertise

- L3808

   Wrist hand finger orthosis, rigid without joints, may include soft interface material; straps, custom fabricated, includes fitting and adjustment

- L3809

    Wrist hand finger orthosis, without joint(s), prefabricated, off-the-shelf, any type

- L3891

   Addition to upper extremity joint, wrist or elbow, concentric adjustable torsion style mechanism for custom fabricated orthotics only, each

- L3900

   Wrist hand finger orthosis, dynamic flexor hinge, reciprocal wrist extension/ flexion, finger flexion/extension, wrist or finger driven, custom fabricated

- L3901

   Wrist hand finger orthosis, dynamic flexor hinge, reciprocal wrist extension/ flexion, finger flexion/extension, cable driven, custom fabricated

- L3904

   Wrist hand finger orthosis, external powered, electric, custom fabricated

- L3905

  Wrist hand orthosis, includes one or more nontorsion joints, elastic bands, turnbuckles, may include soft interface, straps, custom fabricated, includes fitting and adjustment

- L3906

  Wrist hand orthosis, without joints, may include soft interface, straps, custom fabricated, includes fitting and adjustment

- L3908

  Wrist hand orthosis, wrist extension control cock-up, non-molded, prefabricated, off-the-shelf

- L3912

  Hand finger orthosis (hfo), flexion glove with elastic finger control, prefabricated, off-the-shelf

- L3913

  Hand finger orthosis, without joints, may include soft interface, straps, custom fabricated, and includes fitting and adjustment

- L3915

  Wrist hand orthosis, includes one or more nontorsion joint(s), elastic bands, turnbuckles, may include soft interface, straps, prefabricated item that has been trimmed, bent, molded, assembled, or otherwise customized to fit a specific patient by an individual with expertise

- L3916

  Wrist hand orthosis, includes one or more nontorsion joint(s), elastic bands, turnbuckles, may include soft interface, straps, prefabricated, off-the-shelf

- L3917

  Hand orthosis, metacarpal fracture orthosis, prefabricated item that has been trimmed, bent, molded, assembled, or otherwise customized to fit a specific patient by an individual with expertise

- L3918

  Hand orthosis, metacarpal fracture orthosis, prefabricated, off-the-shelf

- L3919

  Hand orthosis, without joints, may include soft interface, straps, custom fabricated, and includes fitting and adjustment

- L3921

  Hand finger orthosis, includes one or more nontorsion joints, elastic bands, turnbuckles, may include soft interface, straps, custom fabricated, and includes fitting and adjustment

- L3923

  Hand finger orthosis, without joints, may include soft interface, straps, prefabricated item that has been trimmed, bent, molded, assembled, or otherwise customized to fit a specific patient by an individual with expertise

- L3924

  Hand finger orthosis, without joints, may include soft interface, straps, prefabricated, off-the-shelf

- L3925

  Finger orthosis, proximal interphalangeal (pip)/distal interphalangeal (dip), non-torsion joint/spring, extension/flexion, may include soft interface material, prefabricated, off-the-shelf

- L3927

  Finger orthosis, proximal interphalangeal (pip)/distal interphalangeal (dip), without joint/spring, extension/flexion (e.g., static or ring type), may include soft interface material, prefabricated, off-the-shelf

- L3929

  Hand finger orthosis, includes one or more nontorsion joint(s), turnbuckles, elastic bands/springs, and may include soft interface material, straps, prefabricated item that has been trimmed, bent, molded, assembled, or otherwise customized to fit a specific patient by an individual with expertise

- L3930

  Hand finger orthosis, includes one or more nontorsion joint(s), turnbuckles, elastic bands/springs, and may include soft interface material, straps, prefabricated, off-the-shelf

- L3931

    Wrist hand finger orthosis, includes one or more nontorsion joint(s), turnbuckles, elastic bands/springs, may include soft interface material, straps, prefabricated, includes fitting and adjustment

- L3933

    Finger orthosis, without joints, may include soft interface, custom fabricated, includes fitting and adjustment

- L3935

    Finger orthosis, nontorsion joint, may include soft interface, custom fabricated, includes fitting and adjustment

Appendix D.4

2018 CPT® CODES FOR OCCUPATIONAL THERAPY

The following CPT® codes are frequently used by occupational therapists to report services in various settings. Additional codes, such as Case Management, and Psychiatry codes, are sometimes accepted by private insurers for classifying and billing OT services. **Not all codes are accepted by all payers, including Medicare**. Limitations on using one or more of these codes

may be established by state regulation and/or payer policy. Always review state rules and the official CPT® book, and request information from specific insurers concerning codes, time frames, and payment policy. **NOTE: Medicare requires the use of CPT® 2018 codes effective January 1, 2018.**

97022	Whirlpool
97024	diathermy (e.g., microwave)
97026	Infrared
97028	Ultraviolet

97167 Occupational therapy evaluation, **high complexity**

PHpH	**PHYICAL MEDICINE & REHABILITATION**

97168 Occupational therapy **re-evaluation**

(Report 97168 for performance of a re-evaluation that is based on an established and ongoing plan of care)

OCCUPATIONAL THERAPY EVALUATIONS

Occupational therapy evaluations include an occupational profile, medical and therapy history, relevant assessments, and development of a plan of care, which reflects the

therapist's clinical reasoning and interpretation of the data.

97165 Occupational therapy evaluation, **low complexity**

(For further guidance on the occupational therapy evaluation codes, including the components noted in the

code descriptors that must be documented in order to report the selected complexity level of occupational therapy evaluation, please refer to the 2018 CPT® coding book.)

97166 Occupational therapy evaluation, **moderate complexity**

Constant Attendance

The application of a modality that requires direct (one-on- one) patient contact.

97032 Application of a modality to one or more areas; electrical stimulation (manual), each 15 minutes *(For transcutaneous electrical modulation pain reprocessing [TEMPR/scrambler therapy], use 0278T.)*

97033 iontophoresis, each 15 minutes

97034 contrast baths, each 15 minutes

97035 ultrasound, each 15 minutes

97036 Hubbard tank, each 15 minutes

MODALITIES

Any physical agent applied to produce therapeutic changes to biologic tissue; includes but not limited to thermal, acoustic, light, mechanical, or electric energy.

Supervised

The application of a modality that does not require direct (one-on-one) patient contact.

97010 Application of a modality to one or more areas; hot or cold packs

97012 traction, mechanical
97014 electrical stimulation (unattended)
97016 vasopneumatic devices
97018 paraffin bath

97039 Unlisted modality (specify type and time if constant attendance)

THERAPEUTIC PROCEDURES

A manner of effecting change through the application of clinical skills and/or services that attempt to improve function.

Physician or other qualified health care professional (i.e., therapist) required to have direct (one-on-one) patient contact.

97110 Therapeutic procedure, one or more areas, each 15 minutes; therapeutic exercises to develop strength and endurance, range of motion, and flexibility

97112 neuromuscular reeducation of movement, balance, coordination, kinesthetic sense, posture, and/or proprioception for sitting and/or standing activities
97113 aquatic therapy with therapeutic exercises
97116 gait training (includes stair climbing)
97124 massage, including effleurage, petrissage, and/or tapotement (stroking, compression, percussion)

(Note: For myofascial release, use 97140.)

97139 Unlisted therapeutic procedure (specify)

97127 Therapeutic interventions that focus on cognitive function (e.g., attention, memory, reasoning, executive function, problem solving, and/or pragmatic functioning) and compensatory strategies to manage the performance of an activity (e.g., managing time or schedules, initiating, organizing, and sequencing tasks), direct (one-on- one) patient contact

(97127 is untimed and should only be used once per day)

(97127 is not covered under Medicare. Practitioners should use G0515 under Medicare—See below)

G0515 Development of cognitive skills to improve attention, memory, problem solving (includes compensatory training), direct (one-on-one) patient contact, each 15 minutes

(G0515 should be reported in 15 minute units)

97140 Manual therapy techniques (e.g., mobilization /manipulation, manual lymphatic drainage, manual traction), one or more regions, each 15 minutes (do not report 97140 in conjunction with 29581– 29584).

97150 Therapeutic procedure(s), group (2 or more individuals)

*(Group therapy procedures involve constant attendance of the physician **or other qualified health care professional** [i.e., therapist], but*

97537 Community/work reintegration training (e.g., shopping, transportation, money management, avocational activities and/or work environment/modification analysis, work task analysis, use of assistive technology device/adaptive equipment), direct one-on-one contact, each 15 minutes

97542 Wheelchair management (e.g., assessment, fitting, training), each 15 minutes

97545 Work hardening/conditioning; initial 2 hours

✚97546 each additional hour (List separately in addition to code for primary procedure.)

ACTIVE WOUND CARE MANAGEMENT

Active wound care procedures are performed to remove devitalized and/or necrotic tissue and promote healing. Services require direct (one-on-one) contact with the patient.

97597 Debridement (e.g., high pressure water jet with/without suction, sharp selective debridement with scissors, scalpel, and forceps), open wound, (e.g., fibrin, devitalized epidermis and/or dermis, exudate, debris, biofilm), including topical application(s), wound assessment, use of a whirlpool, when performed and instruction(s) for ongoing care, per session, total wound(s) surface area: first 20 sq. cm. or less

by definition do not require one-on-one patient contact by the same physician or other qualified health care professional.)

97530 Therapeutic activities, direct (one-on-one) patient contact (use of dynamic activities to improve functional performance), each 15 minutes

97533 Sensory integrative techniques to enhance sensory processing and promote adaptive responses to environmental demands, direct (one-on-one) patient contact, each 15 minutes

97535 Self-care/home management training (e.g., activities of daily living [ADLs] and compensatory training, meal preparation, safety procedures, and instructions in use of assistive technology devices/adaptive equipment), direct one-on-one contact, each 15 minutes

+97598 each additional 20 sq. cm., or part thereof (List separately in addition to code for primary procedure.)

97602 Removal of devitalized tissue from wound(s), non- selective debridement, without anesthesia (e.g., wet-to-moist dressings, enzymatic, abrasion), including topical application(s), wound assessment, and instruction(s) for ongoing care, per session

97605 Negative pressure wound therapy (e.g., vacuum assisted drainage collection), including topical application(s), wound assessment, and instruction(s) for ongoing care, per session; total wound(s) surface area less than or equal to 50 square centimeters

97606 total wound(s) surface area greater than 50 square centimeters

97610 Low frequency, non-contact, non-thermal ultrasound, including topical application(s), when performed, wound assessment, and instruction(s) for ongoing care, per day

TESTS AND MEASUREMENTS

Requires direct one-on-one patient contact

97750 Physical performance test or measurement (e.g., musculoskeletal, functional capacity), with written report, each 15 minutes

97755 Assistive technology assessment (e.g., to restore, augment, or compensate for existing function, optimize functional tasks and/or maximize environmental accessibility), direct one-on-one contact, with written report, each 15 minutes

ORTHOTIC MANAGEMENT AND TRAINING AND PROSTHETIC

MANAGEMENT

97760 Orthotic(s) management and training (including assessment and fitting when not otherwise reported), upper extremity(ies), lower extremity(ies) and/or trunk, initial orthotic(s) encounter, each 15 minutes

97761 Prosthetic(s) training, upper and/or lower extremity(ies), initial prosthetic(s) encounter, each 15 minutes

97763 Orthotic(s)/prosthetic(s) management and/or training, upper extremity(ies), lower extremity(ies), and/or trunk, subsequent orthotic(s)/prosthetic(s) encounter, each 15 minutes

MUSCLE AND RANGE OF MOTION TESTING

95831 Muscle testing, manual (separate procedure) with report; extremity (excluding hand) or trunk

95832 hand, with or without comparison with normal side
95833 total evaluation of body, excluding hands
95834 total evaluation of body, including hands

95851 Range of motion measurements and report (separate procedure); each extremity (excluding hand) or each trunk section (spine)

95852 hand, with or without comparison with normal side

OTHER PROCEDURES

95992 Canalith repositioning procedure(s) (e.g., Epley maneuver, Semont maneuver), per day

CENTRAL NERVOUS SYSTEM ASSESSMENTS/TESTS (e.g., NEURO-COGNITIVE, MENTAL STATUS, SPEECH TESTING)

96110 Developmental screening (e.g., developmental milestone survey, speech and language delay screen) with scoring and documentation, per standardized instrument

(For an emotional/behavioral assessment, use (96127)

96111 Developmental testing (includes assessment of motor, language, social, adaptive, and/or cognitive functioning by standardized developmental instruments) with interpretation and report

96125 Standardized cognitive performance testing (e.g., Ross Information Processing Assessment) per hour of a qualified health care professional's time, both face-to-face time administering tests to the patient and time interpreting these test results and preparing the report

96127 Brief emotional/behavioral assessment (e.g., depression inventory, attention-deficit/hyperactivity disorder [ADHD] scale), with scoring and documentation, per standardized instrument

Appendix E.1

ST CATHERINE UNIVERSITY
Informed Consent for a Research Study
Fieldwork Educator

Study Title: A Training Program for Students Scheduled for a Hand Therapy Fieldwork Experience

Researcher(s): Dorie B. Sokol, MS, OT, CHT

You are invited to participate in a research study. This study is called A Training Program for Students Scheduled for a Hand Therapy Fieldwork Experience. I am a graduate student at St. Catherine University under the supervision of Dr. Julie Bass, a faculty member in the Department of Occupational Therapy. I am completing this study as a part of my doctoral program in OT.

The purpose of this study is to determine if the performances of Level II fieldwork students change if they are provided with extra training prior to starting their fieldwork experiences. This study is important because it could result in more fieldwork sites being willing to take student. Approximately 3 people are expected to participate in this research. Below, you will find answers to the most commonly asked questions about participating in a research study. Please read this entire document and ask questions you have before you agree to be in the study.

Why have I been asked to be in this study?

You volunteered to participate.

If I decide to participate, what will I be asked to do?

If you meet the criteria and agree to be in this study, you will be asked to complete a survey evaluating your student's performance at their midterm. In total, this study will take approximately 15 minutes of your time.

What if I decide I don't want to be in this study?

Participation in this study is completely voluntary. If you decide you do not want to participate in this study, please feel free to say so, and do not sign this form. If you decide to participate in this study, but later change your mind and want to withdraw, simply notify me and you will be removed immediately.

What are the risks (dangers or harms) to me if I am in this study?

None.

What will you do with the information you get from me and how will you protect my privacy?

The information that you provide in this study will be completely confidential

Any information that you provide will be kept confidential, which means that you will not be identified or identifiable in the any written reports or publications.   If it becomes useful to disclose any of your information. I will seek your permission and tell you the persons or agencies to whom the information will be furnished, the nature of the information to be furnished, and the purpose of the disclosure; you will have the right to grant or deny permission for this to happen. If you do not grant permission, the information will remain confidential and will not be released.

Are there possible changes to the study once it gets started?

If during the course of this research study I learn about new findings that might influence your willingness to continue participating in the study, I will inform you of these findings

How can I get more information?

If you have any questions, you can ask them before you sign this form. You can also feel free to contact me at 404.431.4202. If you have any additional questions later and would like to talk to the faculty advisor, please contact Dr. Julie Bass at (651) 690-6602 If you have other questions or concerns regarding the study and would like to talk to someone other than the researcher(s), you may also contact Dr. John Schmitt, Chair of the St. Catherine University Institutional Review Board, at (651) 690-7739 or jsschmitt@stkate.edu.

Statement of Consent:

I consent to participate in the study.

My signature indicates that I have read this information and my questions have been answered. I also know that even after signing this form, I may withdraw from the study by informing the researcher(s).

_____Signature of Participant   Date

_____

Signature of Researcher   Date

Appendix E.2

ST CATHERINE UNIVERSITY
Informed Consent for a Research Study
Students

Study Title: A Training Program for Students Scheduled for a Hand Therapy Fieldwork Experience

Researcher(s): Dorie B. Sokol, MS, OT, CHT

You are invited to participate in a research study. This study is called A Training Program for Students Scheduled for a Hand Therapy Fieldwork Experience. I am a graduate student at St. Catherine University under the supervision of Dr. Julie Bass, a faculty member in the Department of Occupational Therapy. I am completing this study as a part of my doctoral program in OT.

The purpose of this study is to determine if the performances of Level II fieldwork students change if they are provided with extra training prior to starting their fieldwork experiences. This study is important because it could result in more fieldwork sites being willing to take student. Approximately 3 people are expected to participate in this research. Below, you will find answers to the most commonly asked questions about participating in a research study. Please read this entire document and ask questions you have before you agree to be in the study.

Why have I been asked to be in this study?

Your fieldwork educator is a participant.

If I decide to participate, what will I be asked to do?

If you meet the criteria and agree to be in this study, you will be asked to complete a survey evaluating your student's performance at their midterm. In total, this study will take approximately 2 hours of your time.

What if I decide I don't want to be in this study?

Participation in this study is completely voluntary. If you decide you do not want to participate in this study, please feel free to say so, and do not sign this form. If you decide to participate in this study, but later change your mind and want to withdraw, simply notify me and you will be removed immediately.

What are the risks (dangers or harms) to me if I am in this study?

None.

What will you do with the information you get from me and how will you protect my privacy?

The information that you provide in this study will be completely confidential

Any information that you provide will be kept confidential, which means that you will not be identified or identifiable in the any written reports or publications. If it becomes useful to disclose any of your information. I will seek your permission and tell you the persons or agencies to whom the information will be furnished, the nature of the information to be furnished, and the purpose of the disclosure; you will have the right to grant or deny permission for this to happen. If you do not grant permission, the information will remain confidential and will not be released.

Are there possible changes to the study once it gets started?

If during the course of this research study I learn about new findings that might influence your willingness to continue participating in the study, I will inform you of these findings

How can I get more information?

If you have any questions, you can ask them before you sign this form. You can also feel free to contact me at 404.431.4202. If you have any additional questions later and would like to talk to the faculty advisor, please contact Dr. Julie Bass at (651) 690-6602 If you have other questions or concerns regarding the study and would like to talk to someone other than the researcher(s), you may also contact Dr. John Schmitt, Chair of the St. Catherine University Institutional Review Board, at (651) 690-7739 or jsschmitt@stkate.edu.

Statement of Consent:

I consent to participate in the study.

My signature indicates that I have read this information and my questions have been answered. I also know that even after signing this form, I may withdraw from the study by informing the researcher(s).

_____Signature
of Participant   Date

_____

Signature of Researcher   Date

Appendix F

Pre-test/Post-test

Billing and Coding for Level II Fieldwork Students

Date: _____   Pretest ___   Posttest ___

Please circle the correct response to each of the following questions.

1. Which of the following are two types of insurance?
   a. HMO & PPO
   b. PPO & TOS
   c. TRO & open access
   d. HMO & TRO

2. A co-pay is defined as:
   a. How much the insurance company pays the doctor per visit
   b. How much the insurance company pays the therapist per visit
   c. How much the a doctor writes off for per visit
   d. How much the patient pays per visit

3. Which of the following insurance companies is controlled at the state level?
   a. Medicare
   b. Medicaid
   c. Blue Cross/Blue Shield
   d. United Healthcare

4. Which insurance company always has an annual deductible?
   a. Medicaid
   b. Blue Cross Blue Shield
   c. Medicare
   d. Workers Compensation

5. What are the 2 types of CPT codes?
   a. Modalities and exercise
   b. Time based and service based
   c. Hands-on and independent
   d. Tools and Supplies

6. Complexity codes are related to:
   a. Therapeutic exercises
   b. Manual therapy
   c. Modalities

      d. Evaluations

7. Which of the following insurance company follows the 8 minute rule for billing?
      a. Medicare
      b. Workers compensation
      c. Motor vehicle insurance
      d. Self-pay

8. Which insurance company uses a fee schedule?
      a. Medicare
      b. Workers compensation
      c. Both a & b
      d. Neither a nor b

9. Medicare replacement plans are often referred to as:
      a. Health preferred plans
      b. Medicare advantage plans
      c. Medicare supplemental plans
      d. 3rd party alternative plans

10. Medicaid is for patients who:
      a. Have no insurance
      b. 2 or more chronic conditions
      c. 2 or more dependents
      d. Have cancer

Appendix G

Student Assessment

Please complete the following assessment halfway through your student's fieldwork (at the 6 week mark) and mail it back in the stamped, self-addressed envelope provided.

Please circle the number that describes your student's KNOWLEDGE level <u>in regards to coding and billing.</u>

1= Very Weak   2 = Weak   3 = Neutral   4 = Strong   5 = Very Strong

Please circle the number that describes your student's SKILL level <u>in regards to orthotic fabrication.</u>

1=Very Weak   2=Weak   3 = Neutral   4 = Strong   5 = Very Strong