Transfer of Training in Special Education: The Correlation Between Self-Efficacy, Motivation to Learn, and Intent to Transfer Skills Learned

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Abstract

Best practice requires special educators to implement updated practices when teaching students (Roscoe & Fisher, 2008; Spooner, Algozzine, Wood, & Hicks, 2010; Graff & Karsten, 2012). Unfortunately, only a small percentage of what is learned in training is used in the work setting (Kazbour, McGee, Mooney, & Brinkerhoff, 2013). To address this issue, the purpose of the current study was to investigate the relationship between self-efficacy, motivation and intent to transfer trained skills. To this end, using self-efficacy theory (Bandura, 1977) as a framework, three research questions were targeted using a 30-question survey across populations in two states. The research questions were: (1) What is the correlation between self-reported level of self-efficacy and special education staff members’ motivation to learn and intent to transfer training?, (2) To what extent do number of years of experience, highest degree earned and gender predict special education staff members’ self-reported levels of self-efficacy, motivation to learn and intent to transfer training?, and (3) What are the factors special education professionals identify as impacting their a) ability to fully engage in training; b) ability to learn and master the training material; c) ability to apply what they learned in training to their actual job? Results of the study indicate a positive correlation between self-efficacy, motivation, and intent to transfer and these variables were correlated with number of years experience, highest degree earned, or gender. Relevance to job and organizational support were identified as having a great influence on educators’ participation in training. This information could be used by organizations to create tailored training opportunities for staff to be more successful in their professional development.

Keywords: self-efficacy, motivation, intent to transfer, and professional development
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Chapter I: Introduction

Background

Special education, like many fields, is in a perpetual state of evolution and advancement. As in other fields, evolution and advancement in special education naturally occur as researchers and practitioners continually search for new and improved ways to implement strategies in the name of providing better services and education to students (Joyce & Showers, 2002; Spooner, Algozzine, Wood, & Hicks, 2010). As an example, within the field of learning disorders and special education, applied behavior analysis has emerged as leading the way with respect to both teaching students to acquire skills and helping to reduce challenging and potentially dangerous behavior in those students. Across the globe there are reputable schools and other organizations whose focus is educating these students using teaching techniques that are centered in this methodology, which is a process by which the principle of defining functions of behavior is used to then change behavior (Cooper, Heron, & Heward, 2007). One question that logically follows from this type of information then is, how do schools and organizations ensure that staff members in fact implement newer, research based standards in special education?

In the competitive world of public schools, non-public schools, private schools, consulting firms and other such organizations that specialize in education of moderate to severe special needs students, a sound system of teaching and intervention is essential. In order to maintain a state of high standards within the field of special education, these schools and organizations must continually strive for a high level of teaching and intervention integrity regarding accepted best practices prevalent in the educational and clinical literature. This can only happen if staff members in special education are subjected to frequent and updated training. In the example of applied behavior analysis, which often operates under the umbrella of special
education, making certain that interventions and teaching strategies are being implemented as trained is referred to as treatment integrity or procedural integrity. These terms, taken from applied behavior analysis, are frequently seen as interchangeable with a term used more readily in both general and special education; transfer of training.

Treatment or procedural integrity may be defined as the degree to which an independent variable or intervention is implemented as intended (Gresham, 2009), while transfer of training may be defined as the act of productively using training in the workplace (Gegenfurtner, 2013). If a comparison is done of the two definitions, the term training in the transfer of training definition provided by Gegenfurtner is a synonym of the term intervention in the definition of treatment or procedural integrity provided by Gresham. In fact, as used by Gegenfurtner, the term training could be substituted in Gresham’s definition of treatment or procedural integrity, as indeed from a human resources perspective training is an intervention, albeit an intervention with staff. Addressing treatment or procedural integrity with teaching techniques and interventions has become a focal point of research in applied behavior analysis; yet addressing the degree to which training may be transferred or what may influence training transfer has not been addressed with as much attention in general or special education research (Hagermoser-Sanetti & Kratochwill, 2009).

**Statement of the Problem**

In a 1997 review and analysis of transfer of training research, Ford and Weissbein acknowledged that a “transfer problem” (p. 22) exists with respect to what people do with the information they receive in training. In that paper, the authors state that transfer of training is an important issue to examine given that people in organizations need to be successful learners so that they may be utilized fully as meaningful resources. This transfer problem was again
reported on by Saks and Belcourt (2006), when they asserted that training professionals from several organizations agreed that 62% of employees transfer training to the job setting immediately, 44% six months later and only 34% one year after training. Two years prior to Ford and Weissbein’s study, a theoretical model of training factors that may influence training transfer was proposed by Facteau, Dobbins, Russell, Ladd and Kudisch (1995). Among others, one of the factors cited in that research as being relevant to transfer of training was the notion of motivation to transfer.

Building on this, in 2013 Gegenfurtner conducted research aimed at examining dimensions of motivation to transfer training. In her research, she defined transfer of training as “the productive use of training at the workplace” (p. 187) and in so doing she asserted that transfer of training in the workplace was “influenced by multiple factors” (p. 187). This important work by Gegenfurtner (2013) along with other vital research conducted by investigators such as Colquitt, LePine and Noe (2000) and Nijman, Nijhof and Veldkamp (2006), has led the way and carved the path for more research on motivation to transfer training, given that it is limited and that it represents an area in need of further attention.

The current political climate, educational mandates from the government, and best educational and clinical practices require special education practitioners to frequently implement new practices when teaching students (Roscoe & Fisher, 2008; Spooner, Algozzine, Wood, & Hicks, 2010; Graff & Karsten, 2012). To assist in helping these practitioners learn and implement these standards, training is often the necessary first step. It is however, too often the case that training alone is not sufficient to ensure proficiency and implementation of trained standards (Parsons, Rollyson & Reid, 2012). In fact, Kazbour, McGee, Mooney, and Brinkerhoff (2013) found that only 5% - 20% of what is learned in the training room is ever
actually used on the job. With respect to this, researchers have contended that it may be the case that self-efficacy could in fact predict motivation and in turn, actual intent to transfer training (Machin & Fogarty, 1997, 2004; Chiaburu & Marinova, 2005; Chiaburu & Lindsay, 2008).

From a pre-training perspective, understanding the correlation between self-efficacy and motivation to learn and self-efficacy and intent to transfer skills and the predictive nature of experience in the field, highest degree earned and gender will provide insight for trainers and supervisors as it may then inform the construction of training programs and the content therein to be tailored to individuals and their individual learning preferences and styles. This information could also be used to create smaller groups of like trainees for training purposes if individual training is not the most prudent option for an organization. Lastly, this information would also provide trainers and supervisors in the special education setting with guidance regarding what steps, if any, they may need to take post training to verify that trained skills have actually been transferred.

To date there has been little to no research regarding special education practitioners’ motivation to learn and intent to transfer what was learned in the training room to practice in the classroom. This is important according to Joyce and Showers (2002) because although “not all of what is called staff development will improve student achievement” (p. 35) it is the case that more staff development can be designed that will affect student learning. Given the cost of training to districts and private specialized and non-public schools and organizations, as well as the value to students of having special educators properly implement new research-supported standards (Joyce & Showers, 2002; Miles, Odden, Fermanich, Archibald & Gallagher, 2004), it is apparent that further study in the area of self-efficacy, motivation to learn and intent to transfer training is warranted.
Significance of the Problem

Although transfer of training has been researched rather extensively, there are still unanswered questions regarding what may influence its occurrence in specific fields that are relatively unexplored. For example, the question of what influences transfer of training has not been thoroughly researched within the scope of the special education setting. In addition, in general it is clear that many questions still remain regarding what influences a person to want to commit to transfer skills learned in a training environment and that the field of training transfer still requires much in the way of meaningful research (Gegenfurtner, 2013). As has been the case for several decades in education, special education and applied behavior analysis, there exists a reliance upon what has been referred to as the “train and hope” system (Stokes & Baer, 1977), which is a system that is in place for training professionals in topics relevant to skill acquisition and challenging behavior deceleration interventions within special education organizations.

Essentially the term train and hope (Stokes & Baer, 1977) refers to a didactic form of presenting a training where a lecturer stands before a group of trainees and speaks on a training topic for a certain amount of time. At the conclusion of the trainer’s discourse, training attendees are sent on their way back to their place of work. At this point the hope settles in as trainers and supervisors alike cross their fingers and hope that trainees then decide to, and actually have the skill set to then employ the skills learned through training, in the work place setting. Clearly, providing training and then hoping that skills are transferred is not a cost effective or intelligent way to ensure that employees are in fact being used as meaningful resources (Ford & Weissbein, 1997).
Research into motivation within the scope of training in the mid 1990’s focused on how motivation was influenced by general perceptions trainees had with respect to the training environment (Facteau, Dobbins, Russell, Ladd, & Kudisch, 1995). Included in these general perceptions were variables such as reputation of the training, organizational commitment to training, incentives provided for participation in the training, and subordinate, supervisor and administrative management support for training. Facteau, Dobbins, Russell, Ladd and Kudisch indicated in their findings that the organizational context in which training takes place is vital to examine in the future, as researchers attempt to more specifically isolate what may account for motivation and subsequent intent to transfer training.

The evolution of the examination of motivation next came to bear in the form of the investigation of different variables in the organizational culture alluded to by Facteau, Dobbins, Russell, Ladd, and Kudisch (1995). More specifically, individual differences in trainees within organizational cultures came to the forefront of the research into the motivation question. Seyler, Holton III, Bates, Burnett, and Carvalho (2000) reported that individual attitudes explained variance they found in motivation. In reporting this, these researchers asserted that attitudes or motivation with respect to present or subsequent training might be influenced by trainee experience in previous trainings. In referencing trainings in which computers were used, Seyler, Holton III, Bates, Burnett, and Carvalho stated that allowing trainees to “build confidence” with computers (p. 14) may then increase trainee motivation to learn and participate in the training and in so asserting, the door was opened for more research into confidence as a factor in determining motivation.

The correlation between individual opinions and attitudes and motivation to participate in training and eventually intention to transfer that training gained even more ground when as a
research target, the topic expanded to examine individual level antecedents to motivation in training. Among these individual level antecedents were reports of trainee self-efficacy (Carlson, Bozeman, Kacmar, Wright & McMahan, 2000). In discussing the implications of individual level antecedents such as self-efficacy, these researchers suggested that knowledge of a trainee reporting high self-efficacy should lead supervisors, trainers and organizations to target these people for high level professional development programs as they are more likely to “receive and embrace the full benefits of them” (p. 284).

This concentration by researchers in the field on individual characteristics, attitudes and opinions and the relation to motivation in training and then subsequent intent to transfer training was ultimately examined and explained by Colquitt, LePine and Noe (2000) in a meta-analysis they conducted covering 20 years of research into creating an integrative theory of training motivation. Indeed, information garnered in this meta-analysis indicated that the overwhelming consensus of research up to that point in time pointed to individual characteristics such as self-efficacy, as being predictors of motivation in training.

The example of building trainee confidence in computer skills, alluded to earlier, is interesting given that confidence in one’s abilities, computers for example, ties to Bandura’s work in self-efficacy and efficacy expectations, which are expectations one has regarding one’s predicted performance with a task based on past performance and experience (Bandura, 1977). Having a clearer understanding of how self-efficacy relates to motivation to learn and intent to transfer skills from the training setting to the work place should prove to be useful information to trainers, trainees, practitioners and supervisors in the special education setting, as should the predictive nature of number of years experience in the field, highest degree earned and gender as it relates to these variables.
Purpose of the Study

The intent of this doctoral thesis is to explore the correlation between self-efficacy and motivation to learn and self-efficacy and intent to transfer learned skills, as well as the predictive nature of certain aspects of an individual’s history as that history relates to self-efficacy, for participants who work in a special education setting. The researcher hypothesizes that self-reported degree of self-efficacy in special educators is correlated with their motivation to learn applicable training material and their respective subsequent intent to transfer skills learned from the training environment to the special education setting. Additionally, the researcher hypothesizes that certain aspects of an individual’s history, such as number of years experience in the field of special education, highest degree earned, and gender, may in fact predict self-efficacy, which may in turn relate to motivation to learn and intent to transfer skills learned to the special education setting.

The first research question will examine the level of correlation between self-efficacy and motivation to learn and self-efficacy and intent to transfer skills. Additionally, the second of the research questions will examine the predictive nature of years of experience in special education, highest degree earned and gender with respect to self-efficacy, motivation to learn and intent to transfer skills. Lastly, the third research question seeks to identify factors that impact special education professionals’ ability to engage in, learn, and use skills taught in professional development trainings.

Research question 1. What is the correlation between self-reported level of self-efficacy and special education staff members’ motivation to learn and intent to transfer training?
Hypothesis 1. There will be a positive correlation between self-efficacy, motivation to learn and intent to transfer training.

Research question 2. To what extent do number of years of experience, highest degree earned and gender predict special education staff members’ self-reported levels of self-efficacy, motivation to learn and intent to transfer training?

Hypothesis 2. Self-reported level of self-efficacy, motivation to learn and intent to transfer training will be predicted by years of experience, highest degree earned and gender.

Research question 3. What are the factors special education professionals identify as impacting their a) ability to fully engage in training; b) ability to learn and master the training material; c) ability to apply what they learned in training to their actual job?

Conceptual Underpinnings for the Study

The theory of self-efficacy spawned from work within the discipline of social learning theory (a.k.a. social cognitive theory), while, the term self-efficacy itself, was coined by Albert Bandura (1977). The diagram below, Figure 1, illustrates how social cognitive theory accounts for the relationship between a person’s thoughts, a person’s actions and the environment. The figure indicates that there is interaction between a person and his/her behavior that is influenced by thoughts and actions. The figure further indicates that interactions between a person and the environment are influenced by beliefs and cognitive competencies that are mediated by social influences. Finally, the figure indicates that interaction between the environment and the person’s behavior is almost reciprocal in nature, meaning that each has an operational affect on the other. It was out of this theory that self-efficacy was introduced.
Albert Bandura once posited, “expectations of personal efficacy determine whether coping behavior will be initiated, how much effort will be expended, and how long it will be sustained in the face of obstacles and aversive experiences” (Bandura, 1977, p. 191). Specific to these words, Bandura was at the time researching whether or not a person’s efficacy expectations would influence the extent to which he or she would productively participate in different modes of treatment for varying types of psychological disorders. In other words, Bandura was researching if what one expected to be able to do in a given situation actually predicted one’s success, or lack thereof, in that given situation. In so investigating, Bandura was attempting to verify his hypothesis that an individual’s self-efficacy directly affects how that individual will react in certain situations. In its infancy, Bandura proposed the model of self-efficacy as a way to “explain and predict psychological changes” (p. 191) that took place in patients in different modes of treatment. This is important in light of the fact that self-efficacy has also been described in the literature as being the “primary determinant” (p. 663) of behavior change (Sherer, et al., 1982).
More specifically, in his research Bandura (1977) hypothesized that coping strategies for patients in treatment would be determined by personal self-efficacy and that coping would continue even in the face of obstacles, for those patients with what he referred to as high self-efficacy. Bandura explained this idea (see Figure 2 below) by drawing attention to the notions of “efficacy expectations” and outcome expectations (p. 194), which infers that a person with strong efficacy expectations will in fact persevere despite negative, challenging or otherwise uncomfortable experiences.

Figure 2. Diagrammatic representation of the differences between efficacy and outcome.

Many years after Bandura’s initial work in the area, self-efficacy theory evolved to indicate that a person’s beliefs regarding capabilities to perform tasks at a certain level in certain situations affect and influence aspects of a person’s life (Bandura, 1993). A person’s belief’s about his or her abilities became a focal point to the theory when self-efficacy was described by Bandura (1986) as being “not concerned with the skills one has but with the judgments of what one can do with whatever skills one possess” (p. 391). In focusing in on how one’s self-efficacy may impact one’s academic functioning level for example, the evolution of the theory described how self-efficacy influences the way people think, feel and behave through four major avenues that include cognitive, affective, motivation and selection processes. As one of the objectives of this doctoral thesis is to investigate the correlation between self-efficacy and motivation to learn and self-efficacy and intent to transfer training, it is the idea brought forth by Bandura (1993) that self-efficacy affects one’s level of motivation that is most directly applicable.
With respect to its potential correlation to motivation and intent to transfer skills, research suggests that individual differences have been shown to affect, and in some cases actually attenuate the influence of self-efficacy (Judge, Jackson, Shaw, Scott & Rich, 2007). In a general sense according to the theory, those with high self-efficacy see difficult tasks as challenges to be taken on while those with low self-efficacy see them as threats to be avoided (Bandura, 1993). This information then lends itself as another angle to be investigated in the search for correlation between self-efficacy and motivation and self-efficacy and intent to transfer. Through the theoretical framework of self-efficacy theory, the task at hand in this doctoral thesis is to investigate what influences self-efficacy and how in turn, self-efficacy then relates to motivation to learn and intent to transfer training.

**Key Terms / Definitions**

In order to provide clarity in any field of study, it is vital that concise operational definitions of key terms be utilized in an effort to facilitate a clear understanding by the reader of the content within the research project. Below are operational definitions of key terms included in this doctoral thesis.

**Transfer of training.** The application of knowledge, skills, and attitudes learned from training on the job and subsequent maintenance of them over a certain period of time (Baldwin & Ford, 1988) or the productive use of training at the workplace (Gegenfurtner, 2013).

**Self-efficacy.** The judgments one has with respect to what one can do with the skills one possesses (Bandura, 1986).

**Motivation to learn.** The direction, intensity and persistence of learning-directed behavior in training contexts (Colquitt, LePine & Noe, 2000).
Intent to transfer. Expected effort one will put forth in utilizing skills learned in training (Seyler, Holtin III, Bates, Burnett & Carvalho, 1998).

Efficacy expectations. Infer that a person with strong efficacy expectations will in fact persevere despite negative, challenging or otherwise uncomfortable experiences (Bandura, 1977).

Procedural and/or treatment integrity. The degree to which an intervention is implemented as intended (Gresham, 2009).

Train and hope. Providing a training session and then hoping the results of the training generalize to the work setting (Stokes & Baer, 1977).

Special education. A range of educational and social services provided by the public school system and other educational institutions to individuals with disabilities (www.healthofchildren.com, 2015).

Applied behavior analysis. The science in which principals of behavior are applied to improve socially significant behavior (Cooper, Heron & Heward, 2007).

Summary

Special education is in a perpetual state of evolution and advancement. Improvements in special education naturally occur as researchers and practitioners continually search for new ways to implement strategies in the name of providing better services and education to students (Joyce & Showers, 2002; Spooner, Algozzine, Wood, & Hicks, 2010). The problem that logically stems from this is a question of how schools and organizations ensure that staff members in fact implement newer, research based standards in special education. Having a better understanding of the correlation between self-efficacy and motivation to learn and self-efficacy and intent to transfer training, as well as the predictive nature of years of experience,
highest degree earned and gender will provide supervisors, trainers and trainees with valuable information that should assist in maximizing the training experience for all involved parties.

Chapter II of this document is a review of the scholarly literature related to the study of transfer of training, self-efficacy, professional development, motivation to learn, and intent to transfer training. Chapter III provides details regarding the research design, target and sample populations, sampling strategy, research participant recruitment plans, instrumentation and tools, and proposed strategies for data collection, storage, and analysis. Validity, reliability, trustworthiness, and generalizability of the data collected are all discussed, along with required procedures to ensure the protection of participant human rights via the institutional review board (IRB).
Chapter II: Literature Review

Introduction

The cost of training to school districts and private specialized and non-public schools and organizations that provide special education services is exorbitant. In order to justify the associated expense of such training, information on what influences training outcomes as it relates to cost effectiveness is required. One such line of information that may shed light on this has to do with motivation and intent to transfer training. To date, although there has been research regarding training in the field of special education, questions still remain with respect to those who work in special education and their respective motivation and intent to transfer relevant training. The value to students of having special educators properly implement new research-supported standards in teaching and intervention cannot be understated (Joyce & Showers, 2002; Miles, Odden, Fermanich, Archibald & Gallagher, 2004). To assist in helping these practitioners learn and implement these standards, training is often the necessary first step. Too often though, training alone is not sufficient to ensure proficiency in the implementation of desired standards (Parsons, Rollyson & Reid, 2012).

In support of this, Kazbour, McGee, Mooney, and Brinkerhoff (2013) found that only 5% - 20% of what is learned in the training room is ever actually used on the job. As research into what may impact motivation and intent to transfer training has evolved, a greater emphasis on characteristics of the individual trainee, such as attitudes and opinions (Colquitt, LePine and Noe, 2000) has become prevalent in research projects and subsequent results of those research projects. With respect to this, researchers have contended that it may be the case that self-efficacy could in fact predict motivation and in turn, actual intent to transfer training (Machin & Fogarty, 1997, 2004; Chiaburu & Marinova, 2005; Chiaburu & Lindsay, 2008).
In researching transfer of training, Ford and Weissbein (1997) acknowledged that a “transfer problem” (p. 22) existed with respect to what people do with the information they receive in training. In that research, the authors asserted the importance of training transfer by pointing to the fact that people in organizations need to be successful learners so that they may be utilized fully as meaningful resources. Prior to this research by Ford and Weissbein, a theoretical model of training factors that may influence transfer was proposed by Facteau, Dobbins, Russell, Ladd and Kudisch (1995). One of the main factors cited in their model of training as being relevant to transfer of training was motivation or intent to transfer. Building on this, in 2013 Gegenfurtner conducted research aimed at examining dimensions of motivation to transfer training. In her research, she defined transfer of training as “the productive use of training at the workplace” (p. 187) and in so doing she asserted that transfer of training in the workplace was “influenced by multiple factors” (p. 187). This important work by Gegenfurtner along with other vital research conducted by investigators such as Colquitt, LePine and Noe (2000) and Nijman, Nijhof and Veldkamp (2006), has spearheaded research into motivation and intent to transfer training.

The following literature review summarizes the research literature pertaining first, to self-efficacy, which is the theoretical framework for this doctoral thesis. This review then summarizes research into staff training and professional development in the fields of education and special education as well as research into transfer of training, which includes research into motivation and intent to transfer training. Each section gives a chronological overview of the specific area, identifies some of the predominant work in that area, and then expands on some of the most important research that has influenced and is most applicable to this doctoral thesis. Lastly, a brief summary is presented that ties the literature on self-efficacy, training and
professional development in special education, motivation, and intent to transfer training together to build support for the purpose of the current doctoral thesis.

**Self-efficacy**

The actual theory of self-efficacy spawned from work within the discipline of social learning theory (a.k.a. social cognitive theory). Social learning theory indicates that there is interaction between a person and his or her behavior that is influenced by thoughts and actions. Additionally, according to the theory, there are interactions between a person and the environment that are influenced by beliefs and cognitive competencies and that are mediated by social influences. It was out of this theory that self-efficacy was introduced.

Bandura (1982) researched deep into the role that perceived personal self-efficacy plays in human behavior when he asserted that his theory of self-efficacy helped to account for a great diversity of phenomena including coping behavior, physiological reactions to stress, self-regulation of refractory or unmanageable types of behavior, resignation to failure, striving to achieve and career pursuits, to name a few. Bandura went on to assert that because humans as a species are not individually isolated, in many cases efficacy is actually collective, meaning that many of the problems individuals face are actually group or societal problems. If this is the case, then it may stand to reason that in extrapolating that idea to the purpose of the current doctoral thesis, groups of trainees in special education are a collective, all facing the same problem(s). This then leads to questions. Are they motivated and intent on transferring training? Further, to address these questions, are motivation and intent to transfer tied to self-efficacy?

Self-efficacy has been investigated as a factor in better understanding how people and their performance may be managed and maximized from the human resources perspective (Gist, 1987). Gist defined self-efficacy as “one’s belief in one’s capability to perform a task” (p. 472).
In so defining the term, Gist stated that self-efficacy affects one’s effort and persistence in performing tasks, the difficulty level of tasks one will choose to perform, and the level of interest one will report in performing a certain task. These ideas came to light in the midst of an example that Gist alluded to in a research article where she described an attempted restructuring and merger involving the well-known AT&T Corporation. The restructure of the corporation included changes in job descriptions and role responsibilities in managerial job duties, many of which were then met unsuccessfully by employees inheriting the newly reformed positions within the corporation, post restructure and merger. Gist suggested in her research that if AT&T had taken the time to employ some sort of general and/or job specific self-efficacy measures with individuals, more success may have been observed and hence a smoother transition for managers into the newly reshaped AT&T Corporation may have been the result. Examples such as this demonstrate how measuring self-efficacy of individuals and groups may impact the success with which a task is met by those individuals and groups.

Gist’s (1987) example of the AT&T Corporation is but one illustration of the possible effect(s) that measurements of self-efficacy may have on performance of people given exposure to certain situations. Another example of this is seen in research conducted by Bandura (1993) in which he investigated the role of reported individual self-efficacy in students as it related to their academic performance. In reporting his findings, Bandura stated that personal self-efficacy is manifested through four main processes. These processes are labeled cognitive, motivational, selection and affective. More specifically Bandura reported that there are essentially three levels through which self-efficacy operates and hence contributed, in this particular case, to the academic performance of students. These levels include a student’s belief in his or her own ability to regulate learning which leads to mastering academic activities which in turn leads to
determination of student aspirations, how motivated they are to meet those aspirations, and subsequently, their overall academic achievement.

As Bandura continued his work in the area, there were other researchers investigating the impact of self-efficacy on different variables as well. For example, while Bandura was conducting research into student academic performance and self-efficacy, Karl, O’Leary-Kelly, and Martocchio (1993) were busy examining how self-efficacy along with feedback impacted trainee performance in training, specifically in this case, speed-reading. In this example, the authors found that participants who were rated as “high self-efficacy” (p. 391) and who were the recipients of feedback regarding their work in the speed-reading training experienced a corresponding increase in performance and reported self-efficacy. In fact, the more positive the feedback given to training participants in the feedback group, the greater the reported increase in self-efficacy, while the group who received no feedback on training performance reported much less of an impact on self-efficacy as a result of the training. A main implication in this research is that it may be the case that to increase performance in training, it may be beneficial to make attempts at raising the self-efficacy of participants prior to or in the initial stages of training.

In 1997 Machin and Fogarty examined how self-efficacy may influence participant intent to transfer training by employing the LISREL VII (Jorsekog and Sorbom, 1989), which was a tool that measured linear structural relations among variables. In their research, Machin and Fogarty found that among other variables, self-efficacy was in fact significantly correlated to participant intention to transfer training. The importance of this in the evolution of self-efficacy as a variable relating to transfer intent is enhanced given that out of this research, implications regarding assessing trainee likelihood of transfer success or failure were spawned given indications that lower reported self-efficacy was related to lower goal setting and lower
commitment to seeing those goals through. As a result, researchers and trainers were reminded once again of the significance of self-efficacy as it relates to motivation and intent to transfer training.

Often times in research, a topic of concern will generate enough interest, discussion and difference of opinion in the literature that some researchers will attempt to assess and integrate findings in previous research in an effort to derive conclusions surrounding that topic (Glass, 1976). This process is often referred to as a meta-analysis. In one such meta-analysis by Stajkovic and Luthans (1998) the research to that date regarding self-efficacy and work related performance was assessed. In that meta-analysis, the authors examined 114 articles that explored the relationship between self-efficacy and work related performance. Results of the meta-analysis of the literature on the subject indicated that there was an overwhelming significant relationship between self-efficacy and work related performance demonstrated in the 114 research articles. This finding is important as it built even more momentum for the assertion that reports of self-efficacy are important variables to consider in conjunction with work related performance and performance expectations. The finding in this meta-analysis also lent veracity to the argument up to that date that self-efficacy in general, affected individual performance.

A few years following the meta-analysis by Stajkovic and Luthans (1998), which centered on examining self-efficacy and its relationship to work performance, Zimmerman (2000) performed a similar type of analysis specific to self-efficacy and its relationship to motivation and learning. It is interesting to note that much like previous analyses covering the research regarding self-efficacy and its relationship to any number of variables, this analysis too indicated that self-efficacy is a key, mediating variable in performance, specifically in this case
to academic performance. In other words according to Zimmerman, “students’ self-beliefs about academic capabilities do play an essential role in their motivation to achieve” (p. 89).

Later in 2001, yet another meta-analysis was conducted by Chen, Casper, and Cortina in which they examined the relationship between self-efficacy and the complexity of a task. In this analysis, other variables such as work performance, cognitive ability and conscientiousness were also examined. Ultimately with this analysis the researchers were interested in investigating the demonstration in the literature of the mediating affects of self-efficacy as it related specifically to the complexity of a particular task. These researchers in fact found that there was a positive relationship between self-efficacy and cognitive ability, performance and conscientiousness for performance but that the magnitude of the relationship varied across tasks, depending on the complexity of the task. They also stated that self-efficacy may still be useful in explaining how distal individual differences related to performance, regardless of the complexity of the task and in so doing also suggested that measures of general self-efficacy may be better predictors of complex performance than task-specific self-efficacy.

As research and meta-analyses into self-efficacy began to shed light in a more general sense on the relationships between self-efficacy and a number of task completion related topics evolved, more questions were then being tackled by researchers, scholars and practitioners. As it relates to this doctoral thesis, motivation and intent to transfer training began to be more thoroughly examined. Self-efficacy was in many cases being examined not necessarily as the only factor in the success with which people meet objectives, but rather as a piece of the complete puzzle for meeting objectives. In addition, subtleties in differentiating types of self-efficacy were being proposed as possible explanations of what may influence relationships between variables.
As an example of these subtleties, Schwoerer, May, Hollensbe, and Mencl (2005) examined general self-efficacy versus specific self-efficacy and the role each may have in a training intervention meant to enhance performance expectancy. Among other variables, they examined work specific self-efficacy (SSE) and performance expectancy (PE) and found that SSE was influenced by PE and (pre-training) motivation. Important implications of this particular research included the idea that because orientation training typically occurs when employees begin new jobs or positions, selecting employees with “high motivation and confidence in learning capability, as well as positive general self-efficacy” (p. 126), increases the likelihood that individuals will perform satisfactorily during initial training sessions. This again reiterates the point that if self-efficacy is a known factor in affecting performance with respect to motivation and eventual intent to transfer, it only makes sense from a human resources and managerial standpoint to manipulate it as a variable where possible.

Still other studies have explored self-efficacy as a predictor of motivation and skill transfer. Chiaburu and Marinova (2005) performed a field study in which their results supported the position that pre-training motivation acted as a mediator between training self-efficacy and skill transfer. In other words, the Chiaburu and Marinova study indicated that trainees with higher levels of self-efficacy were more motivated to train than trainees with lower levels of self-efficacy. As a result of higher motivation, those participants with higher self-efficacy also reported higher levels of skill transfer. The interesting point to this study is that it implies approaches for strategies that practitioners and managers may use to inform decisions on interventions designed to enhance training motivation and skill transfer of employees.

In 2007, Judge, Jackson, Shaw, Scott, and Rich took the notion of self-efficacy and its relation to work related performance to another level as they specifically examined the role that
individual differences play in that relationship. In fact, in their research, these authors labeled the role of individual differences in the process as *integral*. Essentially, this research indicated that self-efficacy predicted some performance related variables but it also indicated that the relationship between self-efficacy and the performance related variables was in fact attenuated by individual differences such as motivation to learn and motivation to train. Chiaburu and Lindsay (2008) added to this by researching the link between what they referred to as training cognitions (such as self-efficacy) and what they referred to as training outcomes (such as transfer of training). The implication here again being that managers may benefit from taking advantage of knowing how individuals rate their own self-efficacy and what affect that may have on motivation and that in fact, with such knowledge managers may take steps to boost self-efficacy of trainees prior to trainings.

**Training in Special Education**

As pointed out by Joyce and Showers (2002), having special educators properly implement new research-supported standards in teaching and intervention is vital. To this end, there has been significant research into the training of professionals who work with special needs students and clients. The issue however, is that although there has been solid research into special education staff training, there has not been an emphasis necessarily on what motivates these staff members and what may influence their corresponding intent to transfer training. For example, Hasbrouck (1997) investigated peer coaching as a way to assure new special education staff member use of lesson implementation plans in a skills remediation program. In his study, each of the new staff members took part in a series of peer coaching sessions, where the peers were seasoned special educators. Data collected on the 22 new staff members indicated that the peer coaching sessions improved their teaching performance as well as their reported self-
confidence. While the results of this study are important from the perspective of increasing the performance of new special educators, it does not necessarily address what motivates staff members to learn and eventually transfer what they have learned.

Similarly, Kretlow, Wood and Cook (2011) examined teacher training in special education as it related to early intervention and specialized instruction of students. Specifically, the researchers investigated in-service trainings paired with peer coaching for staff members in teaching math. These researchers asserted that special educator performance improved as a result of the in-service training and that there was a second corresponding increase in that improved performance as result of the peer coaching strategy. Other studies regarding staff training in special education examine similar variables and report similar positive results.

For example, studies conducted by Horrocks and Morgan; and Suhrheinrich (2011), all investigated staff member response to interventions aimed at improving staff performance after having received some sort of specialized training in the field of special education. Horrocks and Morgan found that indeed their intervention package for staff members was effective in improving their ability to assess and instruct students with profound special needs. Suhrheinrich reported that a treatment package for staff that included a 6-hour workshop along with what proved to be the most important component of the package, coaching, improved staff member efficacy in using pivotal response training to teach skills to special needs students.

Similar studies in special education staff training were conducted by Kunnavatana, Bloom, Samaha, Kraft, Dayton and Harris (2013) and Brown, Stephenson and Carter (2014). Each of these studies identified staff training and implementation of desired practices and procedures as dependent variables. Results of each study indicated that the identified independent variable, which included a pyramidal training design for conducting functional
analyses in the case of the former study and a multi-component training package for the latter study, did indeed improve staff performance of targeted trained skills. The studies reviewed here in professional development and training of staff members identify strategies at employing independent variables to affect change in the staff member. In other words, an intervention is used with the special education staff members in an effort to get them to use the training they received in an on the job setting. The issue with studies in professional development and training of special education staff as it pertains to this doctoral thesis is that information into the effectiveness of training as well as what motivates staff members to learn and transfer training is not a focal point.

**Effectiveness of Professional Development**

Questions regarding both the importance of and effectiveness of professional development and training abound, and in 1999, Wilson and Berne delved into these questions specifically as they related to teacher acquisition of professional knowledge. This is especially relevant to this doctoral thesis as this researcher seeks to answer training oriented research questions specifically related to the special education environment, specific to a group of people labeled *special education professionals*. In their research, Wilson and Berne examined the state of contemporary professional development and in so doing, they stated that in the 10 years leading up to their work, it was in fact the case that professional development was being “touted as the ticket to reform”, (p. 173). Despite this however, Wilson and Berne acknowledged that teacher learning in the context of professional development opportunities up to that time had “traditionally been a patchwork of opportunities” (p. 174) that was sometimes voluntary, other times mandatory, sometimes planned, other times not and as such was far from being organized, maximized and meaningful.
Research into professional development that followed soon after the work by Wilson and Berne (1999) began to not only ask important questions about how effective and meaningful professional development and training was, it also provided some answers, as was the case with Franke, Carpenter, Levi, and Fennema (2001). Specifically in this case, the researchers were interested in exploring the sustainability of professional development of teachers as it related to teaching them innovative methods to teach students mathematics with the employment of a training strategy for the teachers known as Cognitive Guided Instruction, or CGI. In this study, the authors alluded to the fact that up until they performed this research, much research that had previously been done did not include follow up information, post-training. Additionally the authors noted that research that did in fact include follow up information followed up only to a point, most often up to a year post-training. The results of the study by Franke, Carpenter, Levi, and Fennema however, indicated that all 22 of their participants continued to implement important components of their CGI training program in their classrooms, 4 years post-training. These results leave little doubt that at least in this case, professional development was not only organized, maximized and meaningful, it worked with some fairly astounding effect for these 22 teachers over an extended period of time.

As questions regarding the overall effectiveness of professional development were being addressed by various researchers, Garet, Porter, Desimone, Birman and Yoon (2001) were busy attempting to answer questions with respect to what specifically makes professional development effective. In this study, a national probability sample of in excess of 1,000 teachers was employed in an effort to tease out effects of certain training characteristics on teacher learning. Results in this study indicated that three main features of professional development were identified by participating teachers as being most influential to their (self-reported) increase in
learning and subsequent positive changes in their respective work places. These three features were focus on content knowledge, opportunities for active learning, and coherence with other learning activities. Additionally, these researchers identified three structural features of professional development that also affected teacher learning. These structural features were identified as the form of the activity (for example, workshops v. study groups), participation from teachers that worked in the same school, grade, etc., and duration of the activity (training).

These results are interesting insofar as they indicate with some specificity, some key factors that teachers in this study identified as being important aspects of effective professional development.

Desimone, Porter, Garet, Yoon and Birman (2002) took their investigations into professional development and training with teachers a step further by next examining various aspects of teacher training and professional development and their effects on the practice of teaching in the subject areas of mathematics and science, in a longitudinal project over the course of three years. In this study, the researchers found that concentration on content, in other words, tailoring the content of the professional development training to specific teaching methods that teachers could use in the classroom, increased the use of what was learned in the professional development training in the work setting. These results are significant as they lend credence to the argument that indeed professional development can work, if the task of training is undertaken in such a way so as to foster use of the training outside of training. In this particular case, it was the training focus on teaching methods that was the catalyst for teachers then actually using the training in their work settings. This then is another example of professional development that was organized, maximized and meaningful.

Fisherman, Marx, Best, and Tal (2003) stated “to create excellent programs of professional development, it is necessary to build an empirical knowledge base that links
different forms of professional development to both teacher and student learning outcomes.” (p. 643). In doing this, they took an interesting approach to the research into professional development as they attempted to link teacher and student learning to improve professional development for teachers. By employing a combination of observation in classrooms, teacher reports, and assessment of student learning and progress, these researchers analyzed student performance in a skill and then generated ideas of ways to change teacher professional development that they hypothesized would increase student performance with that skill. The authors in this study readily acknowledge that the effects they saw with their intervention in teacher professional development were “small in scope” (p. 655), yet this is another example of professional development that is organized and meaningful, as several of the teachers participating in the professional development workshop then employed strategies taught in the workshop in their work settings.

Motivation

One of the main variables of study in research into self-efficacy surrounds the role that individual differences play in ratings of self-efficacy. As it relates directly to this doctoral thesis, one of those individual differences uncovered in the study of self-efficacy has to do with the motivation with which a person approaches learning, training and eventually, intent to and actual transfer of training to the work place. This then begs the question, what affects one’s motivation to learn and participate in training? Facteau, Dobbins, Russell, Ladd and Kudisch (1995) noted that research up to 1995 supported the notion that “trainees who enter training with high levels of pre-training motivation learn more and are more likely to complete training than their less motivated peers” (p. 6). This assertion clearly delineates the fact that motivation relates to willingness to undertake or complete a task yet it does not indicate what variable(s) determine(s)
if a trainee enters training with high levels of motivation. To this end, Facteau, Dobbins, Russell, Ladd and Kudisch implied that self-efficacy could be a variable that has an effect on motivation and hence, training outcomes.

In examining factors that may affect motivation, Seyler, Holton III, Bates, Burnett, and Carvalho (2000) examined motivation to transfer training as it relates to five groups of variables in a computer based training program. These groups of variables were 1) individual or general attitudes, 2) situational specific attitudes, 3) reactions, 4) learning and 5) work environment factors. These researchers found that individual attitudes and environmental variables explained most of the variance they discovered in motivation. The results of the study indicated that confidence in computer skills affected motivation in training. Similarly, Carlson, Bozeman, Kacmar, Wright and McMahan (2000) found that individual attitudes, namely self-esteem and what they referred to as training self-efficacy, were positively related to training motivation. These results imply that identifying “those with higher training motivation may result in the organization’s time being spent ensuring that persons entering such training programs are likely to receive and embrace the full benefits of them” (p. 284). In a more general sense, results of this study taken with the results of Seyler, Holton III, Bates, Burnett, and Carvalho (2000) imply that providing trainees with an opportunity to build confidence in training specific related skills, computers for example, may increase motivation when computers are used as the delivery method in training. This then indicates that a possible tool that trainers, managers, and supervisors may use in preparing trainees for training is in understanding variables such as self-efficacy and how they/it may affect trainee-training motivation.

Additional validation of the importance of individual characteristics was brought to light with a meta-analysis performed by Colquitt, LePine and Noe (2000). With this meta-analysis
that focused on examining an integrative theory of training motivation based on the previous twenty years worth of research, verification and consensus was reported in the research literature with respect to the predictability that individual characteristics such as locus of control, conscientiousness, anxiety, and *self-efficacy* had on training motivation. Out of this analysis, questions were posed regarding the importance of the study of individual characteristics as they relate to variables such as climate for transfer and trainee confidence in learning. The findings reported by the authors indicated that overall, yes, individual characteristics, such as self-efficacy were important to continue to study in the context of motivation to learn and train.

The momentum gained and validity demonstrated by the variables of personal, individual characteristics in the research literature from the mid 1990s into the early 2000s continued on into the late 2000s. A study conducted by Rowold (2007) investigated these variables when he examined the impact that personality had on motivation and training. In this study, where Rowald proposed a longitudinal model of examining training related aspects of motivation, he referenced predictors called the “*Big Five* personality variables” (p. 11). Namely, these variables were *introversion, agreeableness, instability, conscientiousness, and openness to experience*. Rowold found that higher motivation to learn in fact predicted higher motivation to transfer training. Implications to practice in light of this information are similar to research previously discussed in this literature review insofar as Rowold indicated that knowledge of the effects of high motivation should set the occasion for trainers and managers to take steps to address potential low motivation observed in or reported by trainees, pre-training. Some of the antecedent steps suggested by Rowold included providing trainees with information on the attributes of training, training objectives, and information regarding the positive effects training can have on one’s career.
Transfer of Training

**Organizational factors associated with intent to transfer.** Research into transfer of training and intent to transfer training has taken many forms, as research such as that conducted by Ford and Weissbein (1997) has inspired managers, trainers and trainees to be mindful of that fact that people in organizations need to be successful learners so that they may be utilized fully as meaningful resources. To that end questions about what affects transfer of training intentions began to be more closely examined in the research literature on the subject. Organizational culture including examinations of organizational transfer climates (Rouiller & Goldstein, 1993) and organizational learning cultures (Egan, Yang & Bartlett, 2004) were some of the variables that quickly took center stage in the research. Rouiller and Goldstein’s research yielded information pointing to the fact that the more positively rated an organization’s transfer climate is, the more trainees are adjudged to have positively transferred skills learned in the training setting.

Egan, Yang and Bartlett (2004) examined what the effects were of organizational learning cultures and job satisfaction on motivation to transfer learning and turnover intentions. In their study, which targeted transfer of learning in information technology professionals, the researchers reminded readers that Noe (1986) stated that motivation to transfer might actually moderate the relationship between learning and a change in a person’s behavior. This is important, as in their research into transfer of learning with information technology professionals Egan, Yang and Bartlett asserted that motivation to transfer is the inspiration an individual has to use what he or she has learned in either formal or informal trainings on the job and in fact, they found that an organization’s learning culture and job satisfaction are important determinants of that intent to transfer. This idea of organizational culture as determinant of intent to transfer was
also investigated and verified in research by Lim and Johnson (2002) along with Egan (2008), though the focus of Egan’s research in that instance was on organizational sub-cultures with which he found there to be a positive relationship with motivation to transfer.

**Individual attitudes and perceptions associated with intent to transfer.** Machin and Fogarty (2003) were interested in identifying perceptions of training related factors and individual variables that may in some way predict transfer of training. Concentrating on computer-based skills in this research project, Machin and Fogarty started out by acknowledging that a number of factors influenced the outcomes of computer skills training and the likelihood of successful transfer of training. The goal in their project was to parse out what role training related variables and, more specific to this doctoral thesis, what individual variables may be involved. One test in this project was intended to explain how and if a trainee’s perceptions of training transfer enhancing activities predicted that trainee’s self-efficacy and intent to transfer computer-based skills. As predicted, what the authors termed pre-training self-efficacy was predictive of post training self-efficacy, in other words after training, the extent to which trainees had favorable thoughts about their abilities post-training, as well as predicting implementation intentions, i.e., transfer of training. In further assessing the antecedents of transfer intentions in a training context, Machin and Fogarty (2004) examined the organizational transfer climate and those aspects of the transfer climate that were related to pre-training self-efficacy, pre-training motivation, and post-training transfer intent and found that pre-training self-efficacy was a significant predictor of pre-training motivation. Again, we have further evidence that individual characteristics, such as self-efficacy, are significantly related to motivation and intent to transfer training. In support of this, self-efficacy was shown to be equally as vital to motivation and intent to transfer training in an empirical examination of the effects of self-efficacy, supervisor
support and motivation to learn on transfer intention (Al-Eisa, Furayyan & Alhemoud, 2009) where they asserted that “a trainee’s transfer intention can be viewed as an endpoint of the motivational process that encompasses his or her motivation to transfer” (p. 1225). This research also verified that indeed self-efficacy contributes to trainee intent to transfer training to the work environment.

Though there has clearly been significant research into motivation to transfer learning and training, as recently as a few years ago researchers were still calling for more investigations in the field (Gegenfurtner, Festner, Gallenberger, Lehtinen & Gruber, 2009). Specifically, Gegenfurtner, Festner, Gallenberger, Lehtinen and Gruber stated in their call for more investigations into transfer, that more explicitly stated theoretical references for transfer are needed in the research. To this end, they employed a combination of expectancy theory, self-determination theory, and the theory of planned behavior to examine individual attitudes toward training, among other variables, in an effort to try and identify if motivation fell into either the categories of being autonomous or controlled.

Interestingly, the results reported by Gegenfurtner, Festner, Gallenberger, Lehtinen & Gruber (2009) indicated that attitudes towards training have a moderate effect on autonomous and controlled motivation to transfer, which implies that specific attitudes trainees have toward training content may have an effect on whether or not they are more or less motivated to apply new skills on the job. This information was also uncovered in research into individual characteristics and attitudes toward training and transfer of skills by Nikandrou, Brinia & Bereri (2009). As in research previously presented in this literature review, Gegenfurtner, Festner, Gallenberger, Lehtinen, and Gruber found that if trainees have more positive attitudes, especially toward the content they are going to be trained in, they are more likely to transfer.
This is an important point as it then implies that if one is in possession of such knowledge, as a trainer, one can make attempts at improving less positive attitudes toward training and shaping motivation to be more positive, especially in the pre-training phase, as suggested by Weissbein, Huang, Ford and Schmidt (2011).

A similar implication in terms of trainers possessing information on trainees, was a focal point of results found in research on dimensions of motivation conducted by Gegenfurtner (2013), in which she found that post-training, more than one type of transfer observation and/or assessment would likely yield more reliable results (of transfer). These results too point to the fact that if those providing training(s) possess the knowledge that there are different amounts of and dimensions to motivation to transfer training in individuals participating in training, those trainers should take full advantage of this knowledge.

Grohmann, Beller and Kauffeld (2014) explored what they termed the critical role of motivation to transfer within the training transfer process. Using a sample of employees in an industrial company along with one peer rating and several self-ratings of transfer, they investigated the role of motivation to transfer in the relationship between training characteristics and training transfer. In this study, motivation to transfer was successfully identified as a link between training characteristics and transfer. Grohmann, Beller and Kauffeld pointed out that understanding the role of motivation to transfer within the larger process of training and transfer of training may assist in identifying “crucial parameters for successful transfer” (p. 84) and they further went on to say that “because motivation to transfer was found to be a linking mechanism between training characteristics and transfer, training professionals should enhance it by means of different instructional methods” (p. 84). They went on to assert that their results indicated that motivation to transfer should be explored, understood and monitored. Lastly, they also went on
to highlight that such an exercise should be done within the context of *characteristics of the training participants*, once again emphasizing the importance of understanding individual characteristics of trainees to try and ensure transfer of training.

Culpin, Eichenberg, Hayward and Abraham (2014) along with Saks and Burke-Smalley (2014) recently published results of research they did with learning, intent to transfer and transfer of training in the education of business executives. According to Saks and Burke-Smalley, research in the area is vital for a very specific reason; transfer of skills may be tied to organizational improvement and success. In the study by Culpin, Eichenberg, Hayward and Abraham, the goal was to understand the relationship between self-reported intent to transfer knowledge and skills and self-reported real transfer of knowledge and skills, however the main focus of this work was on what actually transferred as opposed to factors associated with the process of transfer. In the end, results indicated that it was trained skills that were reported to have been gained (as opposed to knowledge) and it was these skills that were reported to have transferred or were intended to be transferred.

With further regard to influences on intent to transfer training, there have been several meta-analyses that attempt to examine separate yet similar research problems specific to the problem of transfer. For example an analysis by Ford and Weissbein (1997) of 20 articles published in the field of training transfer between the years of 1988 and the mid 1990s, updated an analysis by Baldwin and Ford (1988) and addresses four limitations that were reported in that very important study. The most pertinent of those limitations as it relates to this doctoral thesis addressed in the Ford and Weissbein meta-analysis referred to which trainee characteristics to zero in on in examining effect on training transfer. In their analysis of the literature up to that time, Ford and Weissbein found that significant advances had been made in using theoretical
models to “drive the choice of trainee characteristics to study” (p. 31). As an example of this, they allude to expectancy theory and to the importance of the development of a list of pre-training characteristics that can be identified in participants, among them being motivation. Ford and Weissbein pointed out that there were two key directions for future research in the literature on transfer to take advantage of, the first being the impact of learner goal orientation; the second being to examine the impact that one’s previous experiences may have on motivation and intent to transfer learned skills. The latter of the two may tie directly to self-efficacy.

Another analysis of the research literature was conducted by Burke and Hutchins (2007). This analysis targeted several different disciplines all with a vested interest in transfer of training. Among these disciplines were management, human resources departments, performance improvement, psychology, and training and adult learning. This review, just as the review by Ford and Weissbein (1997) zeroed in on individual characteristics as being the key variable(s) in transfer of training. Further, this review by Burke and Hutchins acknowledged advancement in the field of research into transfer of training since the 1997 review by Ford and Weissbein, yet Burke and Hutchins also asserted that gaps in the literature yet existed and that there was an opportunity to be had to “refine and validate” theories of transfer (p. 284).

A review by Gegenfurtner, Veermans, Festner, and Gruber (2009) was motivated by the assertion that an organization’s time, money, and resources are wasted if employees choose not to use newly learned skills in the workplace. This literature review summarized and synthesized transfer motivation research and offered directions for future investigations. Specifically of interest here are investigated reasons for applying training on the job, which up to that point had mostly been researched within the context of social learning theory, which is tied directly to Albert Bandura and self-efficacy, which is the theoretical framework for this doctoral thesis.
This analysis identified that indeed efficacy beliefs had been widely acknowledged as predictive of motivation to train and transfer skills to the work place. Blume, Ford, Baldwin, and Huang (2010) later added to this in an analysis of the research literature where they identified that the literature demonstrated that transfer of training was influenced by a plethora of variables such as individual characteristics including conscientiousness and motivation and that these characteristics were predictive of intent to transfer.

Summary

The value to special education students of having special educators properly implement new research-supported standards in teaching and intervention cannot be understated (Joyce & Showers, 2002; Miles, Odden, Fermanich, Archibald & Gallagher, 2004). To assist in helping these practitioners learn and implement these standards, training is often the necessary first step. To date, however, there has been little to no research regarding motivation and intent to transfer training in the field of special education. Self-efficacy has been investigated as a factor in better understanding how people and their performance may be managed and maximized from the human resources perspective (Gist, 1987). Other contributing factors such as motivation and intent to transfer training have also been shown to play a key role in assuring professionals are implementing up to date practices in the work setting. Yet, the question of what exactly contributes to one’s motivation and intent to transfer training still persists, even in light of research into independent variables made up of various treatment packages aimed at improving staff performance, such as in the case of much research into the training of special educators.

Chapter III details the research design and methodology, problem and purposes overview, research questions, research hypotheses, population and sample, as well as data collection and instrumentation and data analysis procedures. Plans to ensure the trustworthiness, validity,
reliability, and generalizability of the data collected are also discussed. Institutionally required procedures to ensure the protection of human rights (IRB) are also reviewed. Copies of the informed consent form and survey instrument are attached in Appendices A and B.
Chapter III: Methodology

Introduction

Chapter III provides an overview of the research design and methodology of the proposed research study, the identified research population, data collection efforts, and proposed analysis. The review includes as well, a review of the research questions, both quantitative and qualitative, that guide this mixed method doctoral thesis, along with a review of the research hypotheses to be tested with the quantitative data collected. Following this will be a discussion of the trustworthiness of the study and protection of human subjects, to be concluded by a brief summary of the chapter.

Problem and Purposes Overview

Educational mandates from the government and best educational and clinical practices require special education practitioners to implement new and improved practices when teaching students and when addressing challenging behavior (Roscoe & Fisher, 2008; Spooner, Algozzine, Wood, & Hicks, 2010; Graff & Karsten, 2012). To assist in helping special education practitioners and teachers to learn and implement these practices, training is often the necessary first step. Often times though, training alone is not sufficient to ensure proficiency in implementing trained skills (Parsons, Rollyson & Reid, 2012). In support of this, Kazbour, McGee, Mooney, and Brinkerhoff (2013) reported that only 5% - 20% of what is learned in the training room is ever actually used on the job. In an effort to try and identify variables affecting training effectiveness, researchers have suggested that self-efficacy may predict staff and teacher motivation and in turn, intent to transfer training (Machin & Fogarty, 1997, 2004; Chiaburu & Marinova, 2005; Chiaburu & Lindsay, 2008). Although staff training is indeed a line of research within special education, the question of what influences motivation to learn and intent to
transfer training to the workplace has not been thoroughly researched within the scope of the special education setting. In addition, in general it is clear that many questions still remain regarding what affects a person’s willingness to commit to learn required training material and to transfer of skills learned in a training environment and that the field of training transfer still requires much in the way of meaningful research (Gegenfurtner, 2013).

Given this information, one of the purposes of this doctoral thesis is to seek and examine possible correlation between self-efficacy and motivation to learn and any subsequent intent to transfer training to the workplace. The researcher hypothesizes that a self-reported degree of self-efficacy in professionals in the field of special education is correlated with their motivation to learn applicable training material and their respective subsequent intent to transfer those skills learned from the training environment to the special education setting. Additionally, the researcher hypothesizes that certain aspects of an individual’s history, such as number of years experience in the field of special education, highest degree earned, and gender may in fact predict self-efficacy, which may in turn relate to motivation to learn and intent to transfer skills learned to the special education setting. An additional purpose of this doctoral thesis is to explore the nature of barriers and allies that special education professionals identify as either impeding or assisting them with professional development. This information will be explored via information supplied in a series of open-ended questions, which according to Creswell (2012), will assist in further describing “the phenomenon” (p. 556).

**Quantitative Research Questions and Hypotheses**

There are two quantitative research questions that drive this doctoral thesis; the first investigating self-efficacy and its correlation to motivation to learn and intent to transfer trained skills, the second investigating to what extent identified demographic variables may predict self-
efficacy, motivation to learn and intent to transfer trained skills.

**Research question 1.** What is the correlation between self-reported level of self-efficacy and special education staff members’ motivation to learn and intent to transfer training?

**Research question 2.** To what extent do number of years of experience, highest degree earned and gender predict special education staff members’ self-reported levels of self-efficacy, motivation to learn and intent to transfer training?

The two hypotheses related to the two quantitative research questions that drive this doctoral thesis, are as follows.

**Hypothesis 1.** There will be a positive correlation between self-efficacy, motivation to learn and intent to transfer training.

**Hypothesis 2.** Self-reported level of self-efficacy, motivation to learn and intent to transfer training will be predicted by years of experience, highest degree earned and gender.

**Qualitative Research Question**

There is one qualitative research question that is component to this doctoral thesis. Survey questions that will contribute to answering this research question are open-ended, so as to not constrain individual responses (Creswell, 2012) but rather to encourage respondents to provide answers to some important questions in their own words. This will provide a less restrictive and deeper understanding and insight into how respondents see and identify both barriers to, and factors that may enhance their participation in the training process and subsequent intent to actually use the training they receive in the work setting.
**Research question 3.** What are the factors special education professionals identify as impacting their a) ability to fully engage in training; b) ability to learn and master the training material; c) ability to apply what they learned in training to their actual job?

**Population and Sample**

This researcher has been employed in the field of special education for 20 years at the time this doctoral thesis is being undertaken. As such, this researcher has extensive experience in working within the delivery system of special education services across multiple organizations across two states (California and Massachusetts). The current mode of delivery of special education services technically varies across states. For the most part however, delivery of such special education services typically takes two general forms.

First, there is the public school setting where indeed the intent is to serve as many special needs students as is possible and reasonable to the best of the public school’s ability within the public school setting, within the public school district. Typically in these settings, it is the case that classrooms will be staffed by one licensed or otherwise credentialed special education teacher, a teaching assistant, and depending on the needs of particular students as identified in their individualized education plans (IEP), an aide who is assigned to work with a specific student. In addition to this, other special education staff members may include professionals such as board certified behavior analysts, speech and language pathologists and occupational therapists.

The second option for delivery of special education services is in what is often referred to as a non-public school (NPS) or a non-public agency (NPA). These non-public schools, for the most part, are set up in a similar fashion to public schools with the exception that staffing ratios tend to be richer, meaning the presence of a greater number of staff members, and thus there is
typically a higher concentration of intense special needs students served within the non-public school. The non-public agencies however, may work with special education students within the public or non-public school, or within the home setting. Non-public school and non-public agencies may employ a broad range of special education practitioners such as teachers, teacher aides, board certified behavior analysts, speech and language pathologists and occupational therapists, and one-to-one aides, as is seen in the public school setting.

Creswell (2012) has asserted that in some studies, the researcher will need to decide to gather data from a population on “multiple levels” (p. 141) or “from only one level” (p. 141), depending on the research questions being asked and the corresponding hypotheses being tested. The research questions driving this doctoral thesis do not solely target special education teachers but rather the team that make up special education professionals and practitioners, which as a population are comprised of different genders in different roles working in a variety of the aforementioned settings. The individuals in this population come with varied experience as well as different types of educational backgrounds and degrees earned however, they are all employed and work specifically in the field of special education. In other words, the community of special education staff members is diverse yet as special education professionals, they comprise a single level; a single team. As such, the data for this doctoral thesis will be gathered from a unit of analysis that comprises one level, that unit of analysis being the group that makes up the community working in a number of non-public schools and non-public agencies in California and Massachusetts, labeled as special education professionals.

To provide more specific information as it relates to the unit of analysis (the community of special education professionals), there are currently some 473,000 people employed as special education teachers in the United States (www.studentscholarships.org, 2015), working in the
middle school setting. This figure does not take into account pre-school, kindergarten, elementary or high schools. Additionally, this site reports that there are currently approximately 104,500 people employed as occupational therapists and 119,300 employed as speech and language pathologists in the United States. Information provided on a periodic basis by the Behavior Analyst Certification Board (bacb.com) in 2013 indicated that at that time there were approximately 13,000 people in the United States employed as board certified behavior analysts.

Given this information, a decision needed to be made by this researcher with respect to recruitment of a participant sample from the population of special education professionals. Creswell (2012) defines a convenience sample as a selection of individuals from a population that are “willing and available to be studied” (p. 145) and that may provide useful information regarding research questions and hypotheses being tested. Given this researcher’s specific experience in special education settings across Massachusetts and California, this researcher proposed to study a readily accessible population of special education professionals working in non-public schools and agencies located in those specific geographic areas.

A survey instrument that includes sections targeting information regarding self-efficacy, motivation to learn, intent to transfer learned skills and open-ended information with respect to perceived barriers and positive influences in professional development, designed in Survey Monkey was distributed to 85 special education professionals across two organizations in Massachusetts. Similarly, these surveys were distributed to 70 special education professionals at a special education organization in California.

According to the RaoSoft sample size calculator (raosoft.com), a total estimated population of 155 special education professionals would require a respondent sample size of 111 in order to detect effects with a margin of error of 5%, a confidence level of 95%, and a potential
response distribution of 50%. It was unlikely that the complete population of 155 individuals would respond to the survey however, it was reasonable to assume that 111 people would participate and respond, resulting in survey results that are valid and reflective of the accessible population of special education professionals and therefore generalizable to a larger population of special education professionals. In actuality, there were 115 total responses to this survey.

**Data Collection and Instrumentation**

Prior to any data collection, permission was obtained from the Northeastern University IRB. Upon approval by the Northeastern University IRB, the target population sample for this study was emailed an informed consent form that describes the purpose of the study, an assurance of protecting their identities and confidentiality, an outline of the data collection procedures, and the risks and benefits of the study with respect to their participation. Additionally, the target population was informed of their right to withdraw from the study at any time during the research process, should they decide to participate (Creswell, 2012).

Data for this doctoral thesis was collected electronically using a Survey Monkey generated online instrument. The complete survey instrument and instructions for completion of the online survey instrument sent to each participant can be found in Appendix A. A link to the online survey instrument was emailed to individuals in the sample population along with directions for accessing and completing the survey. The online survey instrument remained open for 30 days.

**Demographic information.** Demographic information was collected from participants, and was analyzed in order to test the hypothesis that participant reports of self-efficacy, motivation, and intent to transfer learned skills will be predicted by number of years of experience, highest degree earned, and gender.
**Open-ended questions.** This doctoral thesis utilized three quantitative scales borrowed from Machin and Fogarty (1997, 2004). In addition to the quantitative information garnered from the 7-point Likert Scale, the survey instrument was slightly modified in order to capture rich and detailed qualitative information from participants that only open-ended questions can provide. The open-ended questions related to the Self-efficacy and Motivation Scales were:

1. What impacts your desire to fully engage in professional development training when it is provided to you?
2. If and when it is the case, when do you actually look forward to professional development training and using what you can from it?

The open-ended questions related to the Intent to Transfer Scale were:

1. What positively contributes to and/or influences your actual use of professional development in your work as an educator?
2. What negatively contributes to and/or influences your actual use of professional development in your work as an educator?

**Self-efficacy scale.** The scale employed in this doctoral thesis to measure reports of self-efficacy is borrowed from a study conducted by Machin and Fogarty (1997). In that study, the researchers developed a 5-item scale designed to assess participant reported strength of self-efficacy. Additionally, Machin and Fogarty reported that a Cronbach Alpha reliability coefficient of 0.82 was attained for the self-efficacy scale, which indicates that it is a reliable tool for the measurement of self-efficacy. The items being measured with the scale include:

1. Confidence in the ability to master the presented material.
2. Confidence in performing satisfactorily in the training.
3. Confidence in effectively using the skill taught in the training.
4. Confidence in developing expertise in the material presented in the training.

5. Confidence in overcoming obstacles to using the skills presented in the training.

Further, the self-efficacy scale is scored on a 7-point Likert Scale with options for scoring being:

1. Not at all.
2. Slightly.
3. More than slightly.
4. Partially.
5. More than partially.
6. Mostly.
7. Extremely.

**Motivation scale.** The scale employed in this doctoral thesis to measure reports of motivation is also borrowed from the aforementioned study conducted by Machin and Fogarty (1997). In that study, the researchers developed a 5-item scale designed to assess reported strength of motivation for participants. Additionally, Machin and Fogarty reported that a Cronbach Alpha reliability coefficient of 0.87 was attained for the motivation scale, which indicates that it is a reliable tool for the measurement of motivation. The items being measured with the scale include:

1. Expectations that investing effort in training will result in success in training.
2. Expectations that success in training will translate to better job performance.
3. Expectations that doing one’s best in training will be beneficial to the self.
4. Expectations that doing well in training is important to one’s self.
5. Expectations that doing one’s best in training provides one with a feeling of satisfaction.
This researcher added one additional question to this scale in an effort to try and
determine the importance of professional development to the organization, in the opinion of the
respondent. That item is:

1. The value the organization places on professional development and training for staff.

Further, the motivation scale is scored on a 7-point Likert Scale identical to the self-
efficacy scale, with options for scoring being:

1. Not at all.
2. Slightly.
3. More than slightly.
4. Partially.
5. More than partially.
6. Mostly.
7. Extremely.

**Intent to transfer scale.** The scale employed in this doctoral thesis to measure reports of
intent to transfer training is borrowed from a study conducted by Machin and Fogarty (2004). In
that study, the researchers developed an 11-item scale designed to assess reported strength of
intent to transfer trained skills for participants. Additionally, Machin and Fogarty reported that a
Cronbach Alpha reliability coefficient of 0.90 was attained for the intent to transfer scale, which
indicates that it is a reliable tool for the measurement of intent to transfer. The items being
measured with the scale include:

1. Intent to discuss with a supervisor, ways to develop skills learned.
2. Intent to discuss with co-workers, ways to develop skills learned.
3. Intent to spend time thinking about how to use skills learned.
4. Intent to evaluate how well skills learned can be used.
5. Intent to look for opportunities to use skills learned.
6. Intent to review training materials to develop skills learned.
7. Intent to practice the skills learned.
8. Intent to set goals to maintain the skills learned.
9. Intent to seek help in maintaining skills learned.
10. Intent to look for barriers to using the skills learned.
11. Intent to monitor one’s skills at maintaining skills learned.

This researcher added one additional question to this scale in an effort to try and determine the helpfulness of professional development to the individual, as reported by the individual. That item is:

1. Helpfulness of professional development and training to the individual.

Further, the intent to transfer learned skills scale is scored on a 7-point Likert Scale similar to the self-efficacy and motivation scales, with options for scoring being:

1. Strongly disagree.
2. Mostly disagree.
3. Partially disagree.
4. Neither agree nor disagree.
5. Partially agree.
6. Mostly agree.
7. Strongly agree.
Data Analysis

With respect to the quantitative data collection and analysis, Pearson’s r (Muijs, 2011) is the statistical test of correlation that was employed to test if a correlation exists and if so, how linear a relationship may exist between self-efficacy and motivation, self-efficacy and intent to transfer, and motivation and intent to transfer. Information garnered from the Pearson’s r test will range between -1, a perfect negative correlation (a participant ranking high on A will also rank low on B) and +1, a perfect positive correlation (a participant ranking high on A will also rank high on B).

In addition, cross tabulation tests (Muijs, 2011) were employed in examining the relationship between the nominal variables (e.g., years of experience, highest degree earned, and gender) and the ordinal variables (self-efficacy, motivation, and intent to transfer skills learned). Regression analysis was also run in order to determine the extent to which independent variables including years of experience, highest degree earned and gender predict the dependent variables of self-efficacy, motivation and intent to transfer skills learned.

The qualitative information captured in the open-ended questions was analyzed via a general inductive approach (Creswell, 2012), in order to form “descriptions and broad themes in the data” (p. 243) that add a more rigorous element to the qualitative data analysis. Thomas (2006) indicated that the general inductive approach functions by providing an “easily used and systematic set of procedures” (p. 237) that produce reliable and valid results. To this end, in general, coding responses to open-ended questions into broad categories in a multi phased approach allowed themes to emerge from open-ended survey questions responses and these themes brought greater clarity, along with the quantitative data included this study, to the problem of transfer of training in special education.
With regard to the coding process for open-ended questions, transcripts of answers were reviewed for common themes, identifying and using various categories, synonyms, and coding frames. To this end Creswell (2012) suggests several steps in the process in an effort to finally arrive at 5-7 themes. The transcripts were read and re-read to determine if the emerging themes were consistent or linked to another theme (Thomas, 2006). Isolating by using techniques such as underlining and circling of key and like words and coding within margins of transcripts of open-ended answers (Creswell, 2012) was used in order to determine any common participant perceptions and experiences with respect to answers supplied in the open-ended questions. The analysis consisted of pouring through the transcripts of answers to the open-ended questions, re-examining the qualitative research question, coding, making a list, and going back to the transcripts of answers to open-ended questions in order to look for similarities and redundancies in codes.

Creswell (2012) suggests that in a general inductive analysis, a researcher seeks common ideas, words and themes that emerge from the words of the participants. Creswell further suggests that a good course of action is to reduce codes to a manageable number between “25 and 30” (p. 245). By reviewing and re-reviewing to eliminate redundancy, categories and codes was reduced. This process was repeated until only 5-7 themes or “aggregated codes”, (p. 248) remain. Lastly, Creswell suggests that a “narrative description”, (p. 254) be created by the researcher in an effort to detail the qualitative findings in order to achieve a general description and that represents the experiences of the collective group of respondents who have participated in the study.
**Trustworthiness**

In an effort to increase the likelihood the results taken from this study will demonstrate validity, triangulation of the qualitative data provided was performed. Triangulation is a process by which evidence from different sources is corroborated (Creswell, 2012) by examining multiple sources of information by looking at each source of information and finding evidence for supporting a theme. The validity of the quantitative data collected was ensured by the information gathered by the survey scales (Machin & Fogarty 1997; Machin & Fogarty, 2004) and their report that the scales yielded Cronbach’s Alpha reliability coefficients of 0.82, 0.87, and 0.90 respectively.

**Protection of Human Subjects**

Participants were provided with a copy of the unsigned survey informed consent form along with the survey instrument, as per Northeastern University’s IRB guidelines. All personal demographic information and all surveys were held in the strictest of confidence and were maintained in this researcher’s possession within password-protected systems. During the coding and analysis of the themes and responses to open-ended questions, any information that may have allowed participant identity to be determined was removed. Transcripts of open-ended questions were washed of any identifying information, with respect to any specific events or people (Creswell, 2012).

**Summary**

The purpose of this doctoral thesis is to identify correlations between self-efficacy and motivation to learn and self-efficacy and intent to transfer skills learned. Additionally, this doctoral thesis seeks to discover if number of years of experience, highest degree earned and gender will predict participants’ reports of self-efficacy, motivation and intent to transfer skills.
learned. To that end, a survey instrument was administered to 155 special education professionals. The self-efficacy survey employs a 7-point Likert Scale measuring 5 items, the motivation survey employs a 7-point Likert Scale, also measuring 5 items, and the intent to transfer survey likewise employs a 7-point Likert Scale measuring a total of 11 items. Additionally, two additional 7-point Likert Scale questions were added to the survey. Four open-ended questions are also included in the survey instrument, the purpose of those questions being to gather information with respect to what may impact willingness to participate, learn and then actually use the skills taught in professional development training.

Data analysis included Pearson’s r to examine correlations among variables, cross tabulation tests to examine the relationship between ordinal and nominal variables and regression analysis to test the predictive nature of demographic information as it relates to self-efficacy, motivation to learn and intent to transfer skills learned. Coding of answers provided for open-ended questions was used, so as to identify themes that run across information provided regarding barriers and positive influences in professional development and training participation.
Chapter IV: Presentation of Findings

Introduction

Researchers have suggested that self-efficacy may predict staff and teacher motivation and, in turn, intent to transfer training (Machin & Fogarty, 1997, 2004; Chiaburu & Marinova, 2005; Chiaburu & Lindsay, 2008). Although staff training is being addressed as a line of research within special education, the question of what influences motivation to learn and intent to transfer training to the workplace has not been thoroughly researched within the scope of the special education setting. It is clear that many questions still remain regarding what affects a person’s willingness to commit to learning required training material and to the transfer of skills learned in a training environment and that the field of training transfer still requires much in the way of meaningful research (Gegenfurtner, 2013). Given this information, the purpose of this doctoral thesis is to seek and examine possible correlation between self-efficacy and motivation to learn and any subsequent intent to transfer training to the workplace. To that end, a modified survey instrument based on initial surveys created by Machin and Fogarty (1997, 2004) was created for use in this doctoral thesis.

Organization of Data Analysis

The survey instrument employed was intended to gather information regarding self-reports in the areas of self-efficacy, motivation, and intent to transfer training to the workplace via 26 statements that are quantitatively scored on a 7-point Likert-Scale. Additionally, 4 open-ended questions were included in the survey instrument, the purposes of which were to yield data and information regarding these same variables (self-efficacy, motivation and intent to transfer skills), but from a rich qualitative perspective. Finally, in total there were 15 participants who were missing some or all of the data with respect to the outcome variables of self-efficacy,
motivation and intent to transfer. These 15 participants were subsequently excluded from any further analysis with respect to this doctoral thesis. The resulting number of participants whose data are included in this study is an even \( n = 100 \).

Regarding use of scales, Muijs (2102) suggests that it is vital to ensure that the items contained within the scales are in fact “measuring the same thing” (p. 217). To that end, Cronbach’s alpha, a statistical test that performs this function, was run in order to provide information regarding the internal consistency of the self-efficacy, motivation, and intent to transfer scales. Results of the Cronbach’s alpha tests are contained in Table 1. The self-efficacy scale contained 5 items and was not modified in any way from the original scale created by Machin and Fogarty (1997). Cronbach’s alpha for this scale was measured at .91, which is well within the acceptable range for internal consistency.

The original motivation and intent to transfer scales borrowed from Machin and Fogarty (2004) contained 5 and 11 items, respectively. Cronbach’s alpha measured the internal consistency of the original 5-item motivation scale at .87. The addition of a question created by this researcher to this scale brought the internal consistency measure to .79, which is still within the acceptable range of internal consistency. Finally, Cronbach’s alpha measured the internal consistency of the original 11-item intent to transfer scale at .93, while the internal consistency of this scale with the additional question created by this researcher was measured at .94. Both of these scores are well within the acceptable range for internal consistency.
Table 1

*Cronbach’s Alpha Scores for Self-Efficacy (Original), Motivation (Original and Modified*), and Intent to Transfer (Original and Modified*) Scales*

<table>
<thead>
<tr>
<th>Scale</th>
<th># items</th>
<th>n</th>
<th>α</th>
</tr>
</thead>
<tbody>
<tr>
<td>Self-efficacy</td>
<td>5</td>
<td>106</td>
<td>.91</td>
</tr>
<tr>
<td>Motivation</td>
<td>5</td>
<td>107</td>
<td>.87</td>
</tr>
<tr>
<td></td>
<td>6</td>
<td>107</td>
<td>.79*</td>
</tr>
<tr>
<td>Intent</td>
<td>11</td>
<td>106</td>
<td>.93</td>
</tr>
<tr>
<td></td>
<td>12</td>
<td>106</td>
<td>.94*</td>
</tr>
</tbody>
</table>

**Research Question 1: What is the Correlation Between Self-Reported Level of Self-Efficacy and Special Education Staff Members’ Motivation to Learn and Intent to Transfer Training?**

In seeking to answer this research question, inter-correlations using Pearson’s r, mean scores and standard deviations were determined for scores on the self-efficacy, motivation, and intent to transfer scales. This information is presented initially aggregated, combining responses from both states and then individually by state, California and Massachusetts.

**Hypothesis and findings.** There will be a positive correlation between self-efficacy, motivation to learn and intent to transfer training. In Table 2, Pearson’s r indicates that there is a positive correlation between self-efficacy and motivation (r = .565), self-efficacy and intent to transfer (r = .481), and motivation and intent to transfer (r = .731). Positive correlations between self-efficacy and motivation, self-efficacy and intent to transfer, and motivation and intent to transfer are statistically significant (p = < .01). Additionally, as can be seen in scatter plot data (see Figures 3, 4, and 5), the correlations between self-efficacy and motivation and self-efficacy
and intent to transfer are moderate, while the correlation between motivation and intent to transfer is moderate to strong in scope.

Table 2

*Summary of States Combined Inter-Correlations, Mean, and Standard Deviation Scores for Self-Efficacy, Motivation and Intent to Transfer Scales*

<table>
<thead>
<tr>
<th>Measure</th>
<th>1</th>
<th>2</th>
<th>3</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. SE</td>
<td>--</td>
<td>--</td>
<td>--</td>
</tr>
<tr>
<td>2. MOT</td>
<td>.565**</td>
<td>--</td>
<td>--</td>
</tr>
<tr>
<td>3. INT</td>
<td>.481**</td>
<td>.731**</td>
<td>--</td>
</tr>
<tr>
<td>M</td>
<td>5.81</td>
<td>5.98</td>
<td>5.82</td>
</tr>
<tr>
<td>SD</td>
<td>.76</td>
<td>.75</td>
<td>.80</td>
</tr>
</tbody>
</table>

*p < .05. **p < .01.

*Figure 3.* Scatterplot showing moderate correlation between self-efficacy (SE) and motivation (MOT) mean scores for states combined.
Figure 4. Scatterplot showing moderate correlation between self-efficacy (SE) and intent to transfer (INT) mean scores for states combined.

Figure 5. Scatterplot showing moderate to strong correlation between motivation (MOT) and intent to transfer (INT) mean scores for states combined.

In examining the data by state (see Table 3), Pearson’s r indicates that for the responses in California, the correlation between self-efficacy and motivation is $r = .498$; the correlation
between self-efficacy and intent to transfer is \( r = .355 \); and the correlation between motivation and intent to transfer is \( r = .702 \). All of these correlations are statistically significant (\( p < .01 \)). Additionally all of these correlations are positive and moderate to strong in scope. With respect to responses from Massachusetts, Pearson’s \( r \) indicates that the correlation between self-efficacy and motivation is \( r = .591 \); the correlation between self-efficacy and intent to transfer is \( r = .542 \); and the correlation between motivation and intent to transfer is \( r = .740 \). All of these correlations are also statistically significant (\( p < .01 \)). As was the case in California all of these correlations from Massachusetts responses are positive and moderate to strong in scope.

Table 3

Summary of Inter-Correlations, Mean, and Standard Deviation Scores for Self-Efficacy, Motivation and Intent to Transfer Scales, Separated by State

<table>
<thead>
<tr>
<th>Measure</th>
<th>California</th>
<th></th>
<th></th>
<th>Massachusetts</th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>1</td>
<td>2</td>
<td>3</td>
</tr>
<tr>
<td>1. SE</td>
<td>--</td>
<td></td>
<td></td>
<td>--</td>
<td></td>
<td></td>
</tr>
<tr>
<td>2. MOT</td>
<td>.498**</td>
<td>--</td>
<td></td>
<td>.591**</td>
<td>--</td>
<td></td>
</tr>
<tr>
<td>3. INT</td>
<td>.355**</td>
<td>.702**</td>
<td>--</td>
<td>.542**</td>
<td>.740**</td>
<td>--</td>
</tr>
<tr>
<td>M</td>
<td>5.90</td>
<td>6.16</td>
<td>5.94</td>
<td>5.75</td>
<td>5.85</td>
<td>5.73</td>
</tr>
<tr>
<td>SD</td>
<td>.72</td>
<td>.64</td>
<td>.74</td>
<td>.79</td>
<td>.80</td>
<td>.83</td>
</tr>
</tbody>
</table>

*p < .05. **p < .01.

Summary of correlation between self-efficacy, motivation and intent to transfer.

Data yielded from the states combined and states separated Pearson’s \( r \) analyses indicate that there is a positive correlation between self-efficacy and motivation, self-efficacy and intent to
transfer, and motivation and intent to transfer. Although none of these correlations proved to be completely linear, they are nonetheless moderate to strong in scope.

**Research Question 2: To What Extent do Number of Years of Experience, Highest Degree Earned and Gender Predict Special Education Staff Members’ Self-Reported Levels of Self-Efficacy, Motivation to Learn and Intent to Transfer Training?**

In order to answer this research question, hierarchical linear regression analyses were conducted. This information is presented initially aggregated, combining responses from both states, California and Massachusetts, and then individually by state.

**Hypothesis and findings.** Self-reported level of self-efficacy, motivation to learn and intent to transfer training will be predicted by years of experience, highest degree earned and gender. Table 4 presents a summary of demographic information for both states.

For this analysis, gender was split into two categories, male and female, as the third option (self-defined), was not chosen by any respondents in the survey. Highest level of education was placed into two categories, bachelor’s degree and master’s degree, as there were so few reports in the survey results of respondents having a high school diploma, associate’s or doctoral degree, that including these in the analysis would not provide meaningful information. A similar approach was taken regarding the inclusion of number of years of experience in special education in the analysis. This variable was placed into three categories for this analysis, 0-3, 4-6, and 7 or more years of experience in special education. Hierarchical linear regression analysis indicated that none of the demographic variables were statistically significant at the p = .05 level, (F[5, 94] = 1.557, p = .180, R^2 = .077), meaning they were not predictive of self-efficacy.
Table 4

Summary of Demographic Information (n = 100)

<table>
<thead>
<tr>
<th></th>
<th>% (N)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Participants</td>
<td></td>
</tr>
<tr>
<td>California</td>
<td>41% (41)</td>
</tr>
<tr>
<td>Massachusetts</td>
<td>59% (59)</td>
</tr>
<tr>
<td>Gender</td>
<td></td>
</tr>
<tr>
<td>Female</td>
<td>77% (77)</td>
</tr>
<tr>
<td>Male</td>
<td>12% (23)</td>
</tr>
<tr>
<td>Highest Education</td>
<td></td>
</tr>
<tr>
<td>Bachelor’s</td>
<td>43% (43)</td>
</tr>
<tr>
<td>Master’s</td>
<td>57% (57)</td>
</tr>
<tr>
<td>Years Experience</td>
<td></td>
</tr>
<tr>
<td>0-3</td>
<td>26% (26)</td>
</tr>
<tr>
<td>4-6</td>
<td>31% (31)</td>
</tr>
<tr>
<td>7 or more</td>
<td>43% (43)</td>
</tr>
</tbody>
</table>

**Analysis of states combined, motivation and intent to transfer.** As is seen in Tables 5 and 6, hierarchical linear regressions with demographic information were also conducted for both motivation and intent to transfer in a 2 step analysis. In step 1 of this procedure, only demographic variables were included (gender, highest level of education and years experience in the field). In step 2 of this procedure, self-efficacy was added as a variable, in an effort to determine if self-efficacy would have any impact with respect to accounting for variance found with the demographic variables in step 1 of the analysis. Step 1 of the analysis found no statistically significant predictive quality with any of the demographic variables with respect to either motivation or intent to transfer.

**Motivation.** The information in Tables 5 and 6 reflects step 2 of the analysis in which self-efficacy was added as a variable. With respect to step 2 of this analysis and motivation, two demographic variables, gender and state, were a statistically significant predictor of motivation when self-efficacy was added into this analysis. The addition of self-efficacy in this analysis accounted for an additional 24% of the variance found in step 1 of the analysis of motivation, in
which self-efficacy was not a variable and none of the demographic variables were found to be statistically significant predictors of motivation.

Table 5

*Hierarchical Linear Regression Results for Motivation (n = 100)*

<table>
<thead>
<tr>
<th></th>
<th>B</th>
<th>SE B</th>
<th>β</th>
</tr>
</thead>
<tbody>
<tr>
<td>Gender</td>
<td>.350</td>
<td>.148</td>
<td>.197*</td>
</tr>
<tr>
<td>Education</td>
<td>-.147</td>
<td>.144</td>
<td>-.098</td>
</tr>
<tr>
<td>Years Exp (4-6)</td>
<td>-.131</td>
<td>.163</td>
<td>-.081</td>
</tr>
<tr>
<td>Years Exp (7+)</td>
<td>-.035</td>
<td>.167</td>
<td>-.023</td>
</tr>
<tr>
<td>State</td>
<td>-.274</td>
<td>.131</td>
<td>-.181*</td>
</tr>
<tr>
<td>Self-efficacy</td>
<td>.505</td>
<td>.083</td>
<td>.512**</td>
</tr>
</tbody>
</table>

Note. $R^2 = .146$ for Step 1 (p < .01); $\Delta R^2 = .242$ for Step 2 (p < .01). Total $R^2 = .388$.

*p < .05. **p < .01.

**Summary of states combined, motivation.** Step 1 of the analysis of the predictive nature of demographic variables indicated that none of the demographic variables were a statistically significant predictor of motivation. In step 2 of the analysis, where self-efficacy was added as a variable, gender, state, and self-efficacy were then found to be statistically significant individual predictors of motivation as females scored .350 higher in motivation, Massachusetts scored .274 lower on motivation, and as self-efficacy scores increased, so did motivation; by .5 points for every 1 point increase in self-efficacy. Thus, it is the case that in addition to being a predictor of motivation and accounting for an additional 24% of the variance found in step 1 of the analysis of motivation, self-efficacy as a variable affected the significance of gender and state as predictors of motivation in this analysis.

**Intent to transfer.** Regarding intent to transfer, as can be seen in step 2 of the analysis (see Table 6), even with the addition of self-efficacy as a variable, demographic variables were
not a statistically significant predictor of intent to transfer. However, the addition of self-efficacy in this analysis accounted for an additional 19.6% of the variance found in step 1 of analysis of the predictive nature of the demographic variables on intent to transfer. Though demographic variables were not predictors of intent to transfer with or without self-efficacy added in as a variable to the analysis, self-efficacy was itself a significant individual predictor of intent to transfer. As self-efficacy scores increased, so did intent to transfer; by .482 points for every 1 point increase in self-efficacy.

Table 6

*Step 2 Hierarchical Linear Regression Results for Intent to Transfer (n = 100)*

<table>
<thead>
<tr>
<th></th>
<th>B</th>
<th>SE B</th>
<th>β</th>
</tr>
</thead>
<tbody>
<tr>
<td>Step 2</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Gender</td>
<td>.216</td>
<td>.170</td>
<td>.115</td>
</tr>
<tr>
<td>Education</td>
<td>-.147</td>
<td>.166</td>
<td>-.092</td>
</tr>
<tr>
<td>Years Exp (4-6)</td>
<td>-.351</td>
<td>.187</td>
<td>-.205</td>
</tr>
<tr>
<td>Years Exp (7+)</td>
<td>-.051</td>
<td>.192</td>
<td>-.032</td>
</tr>
<tr>
<td>State</td>
<td>-.129</td>
<td>.151</td>
<td>-.080</td>
</tr>
<tr>
<td>Self-efficacy</td>
<td>.482</td>
<td>.096</td>
<td>.461**</td>
</tr>
</tbody>
</table>

Note. $R^2 = .087$ for Step 1; $\Delta R^2 = .196$ for Step 2 ($p < .01$). Total $R^2 = .283$.

* $p < .05$. ** $p < .01$.

**Summary of states combined, intent to transfer.** As was the case with respect to motivation, step 1 of the analysis of the predictive nature of demographic variables indicated that none of the demographic variables were a statistically significant predictor of intent to transfer. In step 2 of the analysis, where self-efficacy was added as a variable, in contrast to motivation, still none of the demographic variables were found to be statistically significant individual predictors of intent to transfer. It is however the case that just as with motivation, self-efficacy as a variable was a predictor of intent to transfer in this analysis.
**Analysis of states separated, motivation and intent to transfer.** Hierarchical linear regressions were then conducted with demographic information for both motivation and intent to transfer, this time testing California and Massachusetts separately. Table 7 presents a summary of state specific demographic information, while Tables 8, 9, 10 and 11 present a summary of state specific hierarchical linear regression information.

**Motivation.** With respect to motivation in California and Massachusetts, tested separately in step 1, demographic variables alone were not a statistically significant predictor of motivation (see Table 8). However, when self-efficacy was added into this analysis as a variable in step 2 (see Table 9), gender in California (p < .05) and self-efficacy in both California and Massachusetts (p < .01) were statistically significant predictors of motivation.

Table 7

**Summary of State Specific Demographic Information**

<table>
<thead>
<tr>
<th></th>
<th>California (n = 41)</th>
<th>Massachusetts (n = 59)</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Gender</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Female</td>
<td>73% (30)</td>
<td>80% (47)</td>
</tr>
<tr>
<td>Male</td>
<td>27% (11)</td>
<td>20% (12)</td>
</tr>
<tr>
<td><strong>Highest Education</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>HS</td>
<td>2% (1)</td>
<td>5% (3)</td>
</tr>
<tr>
<td>Associate’s</td>
<td>5% (2)</td>
<td>0% (0)</td>
</tr>
<tr>
<td>Bachelor’s</td>
<td>20% (8)</td>
<td>49% (29)</td>
</tr>
<tr>
<td>Master’s</td>
<td>68% (28)</td>
<td>42% (25)</td>
</tr>
<tr>
<td>Doctoral</td>
<td>5% (2)</td>
<td>3% (2)</td>
</tr>
<tr>
<td><strong>Years of Experience</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>0-3</td>
<td>24% (10)</td>
<td>27% (16)</td>
</tr>
<tr>
<td>4-6</td>
<td>20% (8)</td>
<td>39% (23)</td>
</tr>
<tr>
<td>7-9</td>
<td>20% (8)</td>
<td>19% (11)</td>
</tr>
<tr>
<td>10-15</td>
<td>27% (11)</td>
<td>10% (6)</td>
</tr>
<tr>
<td>16-20</td>
<td>5% (2)</td>
<td>3% (2)</td>
</tr>
<tr>
<td>20+</td>
<td>5% (2)</td>
<td>2% (1)</td>
</tr>
</tbody>
</table>
Table 8

*Step 1 Hierarchical Linear Regression Results for Motivation, by State (n = 100)*

<table>
<thead>
<tr>
<th></th>
<th>CA</th>
<th></th>
<th>MA</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>B</td>
<td>SE B</td>
<td>B</td>
<td>SE B</td>
</tr>
<tr>
<td>Gender</td>
<td>.529</td>
<td>.212</td>
<td>.412</td>
<td>.276</td>
</tr>
<tr>
<td></td>
<td></td>
<td>.018</td>
<td></td>
<td>.141</td>
</tr>
<tr>
<td>Education</td>
<td>-.487</td>
<td>.227</td>
<td>-.224</td>
<td>.242</td>
</tr>
<tr>
<td></td>
<td></td>
<td>.039</td>
<td></td>
<td>.358</td>
</tr>
<tr>
<td>Years (4-6)</td>
<td>-.025</td>
<td>.284</td>
<td>-.085</td>
<td>.263</td>
</tr>
<tr>
<td></td>
<td></td>
<td>.930</td>
<td></td>
<td>.747</td>
</tr>
<tr>
<td>Years (7+)</td>
<td>.019</td>
<td>.234</td>
<td>-.039</td>
<td>.317</td>
</tr>
<tr>
<td></td>
<td></td>
<td>.935</td>
<td></td>
<td>.903</td>
</tr>
</tbody>
</table>

Note: California: F(4, 36) = 2.476, p = .061, R² = .216; Massachusetts: F(4, 54) = 1.051, p = .390, R² = .072.

Table 9

*Step 2 Hierarchical Linear Regression Results for Motivation, by State (n = 100)*

<table>
<thead>
<tr>
<th></th>
<th>California</th>
<th></th>
<th>Massachusetts</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>B</td>
<td>SE B</td>
<td>B</td>
<td>SE B</td>
</tr>
<tr>
<td>Gender</td>
<td>.424</td>
<td>.198</td>
<td>.343</td>
<td>.227</td>
</tr>
<tr>
<td></td>
<td></td>
<td>.297*</td>
<td></td>
<td>.175</td>
</tr>
<tr>
<td>Education</td>
<td>-.322</td>
<td>.217</td>
<td>-.068</td>
<td>.201</td>
</tr>
<tr>
<td></td>
<td></td>
<td>-.226</td>
<td></td>
<td>-.043</td>
</tr>
<tr>
<td>Years (4-6)</td>
<td>-.071</td>
<td>.261</td>
<td>-.168</td>
<td>.216</td>
</tr>
<tr>
<td></td>
<td></td>
<td>-.045</td>
<td></td>
<td>-.103</td>
</tr>
<tr>
<td>Years (7+)</td>
<td>-.025</td>
<td>.215</td>
<td>-.035</td>
<td>.260</td>
</tr>
<tr>
<td></td>
<td></td>
<td>-.019</td>
<td></td>
<td>-.021</td>
</tr>
<tr>
<td>Self-efficacy</td>
<td>.356</td>
<td>.128</td>
<td>.581</td>
<td>.112</td>
</tr>
<tr>
<td></td>
<td></td>
<td>.399**</td>
<td></td>
<td>.575**</td>
</tr>
</tbody>
</table>

Note. For CA: R² = .216 for Step 1 (ns); ΔR² = .142 for Step 2 (p < .01). Total R² = .358. For MA: R² = .072 for Step 1 (ns); ΔR² = .313 for Step 2 (p < .01). Total R² = .385.

*p < .05. **p < .01.

**Summary of states separated, motivation.** It is interesting to note here that self-efficacy added in as a variable into the analysis affected the relationship of select demographic variables in both California and Massachusetts. For example, in step 1 of this analysis, where self-efficacy was not a variable, although no statistically significant, a positive correlation was seen with *education* and *years of experience* in relation to motivation in both states (see Table 8).
However, when self-efficacy was added as a variable in the analysis, this relationship changed from positive to negative for these variables in both states (see Table 9). The addition of self-efficacy as a variable along with the demographic variables in step 2 of this analysis, accounted for an additional 14% of variance found in the analysis for California without self-efficacy as a variable in step 1 of this analysis. An additional 31% of variance was accounted for when self-efficacy was added to the demographic analysis for the responses from Massachusetts in step 2 of this analysis. In step 2 of this analysis, responses from California indicate that gender was a statistically significant predictor of motivation, as females scored .424 points higher than males. No demographic variables were found to be a statistically significant predictor of motivation in Massachusetts, even with the addition of self-efficacy as a variable in step 2 of the analysis. Lastly, for each of the two states, self-efficacy was a statistically significant predictor of motivation, as in California for every 1 point increase in self-efficacy, motivation increased by .356 points while in Massachusetts, for every 1 point increase in self-efficacy, motivation increased by .581 points.

**Intent to transfer.** Similar to motivation, demographic variables were not a statistically significant predictor of intent to transfer in California or Massachusetts (see Table 10), each state tested separately in step 1 of this analysis. In step 2 of this analysis, where self-efficacy was added as a variable (see Table 11), again, none of the demographic variables were a statistically significant predictor of intent to transfer in either state. Self-efficacy however, was found to be a statistically significant predictor of intent to transfer for Massachusetts (p < .01) only. The addition of self-efficacy as a variable along with the demographic variables in step 2 of the analysis accounted for only an additional 6% of variance found in the analysis for California which, is not significant, while the addition of self-efficacy as a variable in step 2 of the analysis
accounted for an impressive additional 30% of the variance found in intent to transfer in Massachusetts. In Massachusetts, for every 1 point increase in self-efficacy, motivation increased by .598 points.

Table 10

*Step 1 Hierarchical Linear Regression Results for Intent to Transfer, by State (n = 100)*

<table>
<thead>
<tr>
<th></th>
<th>CA</th>
<th></th>
<th>MA</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>B</td>
<td>SE B</td>
<td>β</td>
<td>B</td>
</tr>
<tr>
<td>Gender</td>
<td>.277</td>
<td>.255</td>
<td>.285</td>
<td>.424</td>
</tr>
<tr>
<td>Education</td>
<td>-.678</td>
<td>.273</td>
<td>.018</td>
<td>-.088</td>
</tr>
<tr>
<td>Years (4-6)</td>
<td>-.167</td>
<td>.341</td>
<td>.627</td>
<td>-.368</td>
</tr>
<tr>
<td>Years (7+)</td>
<td>.034</td>
<td>.281</td>
<td>.905</td>
<td>-.062</td>
</tr>
</tbody>
</table>

Note: California: F(5, 35) = 2.036, p = .159, R² = .163; Massachusetts F(4, 64) = 1.038, p = .396, R² = .071.

Table 11

*Step 2 Hierarchical Linear Regression Results for Intent to Transfer, by State (n = 100)*

<table>
<thead>
<tr>
<th></th>
<th>California</th>
<th></th>
<th>Massachusetts</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>B</td>
<td>SE B</td>
<td>β</td>
<td>B</td>
</tr>
<tr>
<td>Gender</td>
<td>.196</td>
<td>.253</td>
<td>.119</td>
<td>.355</td>
</tr>
<tr>
<td>Education</td>
<td>-.552</td>
<td>.277</td>
<td>-.334</td>
<td>.071</td>
</tr>
<tr>
<td>Years (4-6)</td>
<td>-.202</td>
<td>.333</td>
<td>-.109</td>
<td>-.452</td>
</tr>
<tr>
<td>Years (7+)</td>
<td>-.000</td>
<td>.275</td>
<td>.000</td>
<td>-.057</td>
</tr>
<tr>
<td>Self-efficacy</td>
<td>.273</td>
<td>.163</td>
<td>.263</td>
<td>.589</td>
</tr>
</tbody>
</table>

Note. For CA: R² =.163 for Step 1 (ns); ΔR² =.062 for Step 2 (ns).Total R² = .225. For MA: R² =.071 for Step 1 (ns); ΔR² =.300 for Step 2 (p < .01).Total R² = .372.

a p = .051.

* p < .05. **p < .01.

**Summary of states separated, intent to transfer.** Similar to the analysis of motivation with states separated, it is interesting to note here that self-efficacy added in as a variable into the
analysis affected the relationship of selected demographic variables. In step 1 of this analysis, where self-efficacy was not a variable, a positive correlation was seen with education and years of experience in relation to intent to transfer in both states (see Table 10). When however, self-efficacy was added as a variable in the analysis, the correlation for education and years of experience changed from positive to negative in California while that same affect was seen for years of experience in Massachusetts (see Table 11). Step 1 of the analysis examining the predictive nature of demographic variables on intent to transfer training indicated that the demographic variables were not a statistically significant predictor of intent to transfer for either state. The addition of self-efficacy as a variable along with the demographic variables in step 2 of this analysis accounted for only an additional 6% of variance found in the analysis for California which, is not statistically significant, while the addition of self-efficacy as a variable in step 2 of the analysis accounted for an impressive additional 30% of the variance found in intent to transfer in Massachusetts responses. In Massachusetts, for every 1 point increase in self-efficacy, motivation increased by .598 points.

Research Question 3: What are the Factors Special Education Professionals Identify as Impacting Their a) Ability to Fully Engage in Training; b) Ability to Learn and Master the Training Material; c) Ability to Apply What They Learned in Training to Their Actual Job?

Analysis and findings. The qualitative information captured in the responses to the four open-ended questions was analyzed via a general inductive approach (Creswell, 2012), in order to form “descriptions and broad themes in the data” (p. 243). This process added a more rigorous element to the qualitative data analysis by employing an “easily used and systematic set of procedures” (Thomas, 2006, p. 237) that have been shown to produce reliable and valid
results. Coding responses to open-ended questions into broad categories in a multi phased approach allowed themes to emerge from responses to the four open-ended survey questions. These themes provide rich information and thus greater clarity to the problem of transfer of training in special education.

With specific respect to the coding process for responses to the four open-ended survey questions, Creswell (2012) suggests several steps in the process in an effort to finally arrive at somewhere between 5-7 themes. The transcripts of responses to open-ended questions were read and re-read in order to determine consistent emerging themes (Thomas, 2006). Underlining, highlighting and circling of key and like words and coding within margins of transcripts of open-ended answers (Creswell, 2012) was also employed in order to determine any common participant perceptions and experiences with respect to answers supplied in the open-ended questions.

Creswell (2012) suggests that in a general inductive analysis, an initial reasonable course of action is to reduce codes to a manageable number between “25 and 30” (p. 245). In reviewing and re-reviewing responses to eliminate redundancy, categories and codes regarding the responses to open-ended survey questions were gradually reduced. This process was repeated multiple times until only a small and even more manageable number of coded themes or “aggregated codes”, (p. 248) remained. Color-coding was used as the primary strategy in isolating which theme or themes responses to open-ended survey questions ultimately aligned with. Some questions yielded more themes than others. Once final coding was complete and themes were ultimately identified, a “narrative description”, (Creswell, 2012, p. 254) was created by this researcher in order to achieve a general description that represents the experiences of the collective group of respondents who have participated in the study. This narrative description
may be found in the discussion chapter of this doctoral thesis. The final breakdown of themes can be seen in the presentation of open-ended question results, below.

What impacts your desire to fully engage in professional development training when it is provided to you? In coding responses to this question (#27) in California, seven main themes emerged, while in Massachusetts, four themes emerged. Those themes, along with the percentage of respondents in each state commenting on this theme and samples of the narrative responses within each theme in each state are presented in Table 12. A graphical display of prevalence of themes in each state for this question can be seen in Figure 6.
Table 12

*Themes Contained in Qualitative Question #27*

<table>
<thead>
<tr>
<th>Theme</th>
<th>Sample Responses</th>
</tr>
</thead>
<tbody>
<tr>
<td>Relevance to job (CA 33%; MA 60%)</td>
<td>“Whether or not the topic is applicable to my work.”</td>
</tr>
<tr>
<td>Organizational support (CA 19%; MA 5%)</td>
<td>“Support from supervisors and co-workers.”</td>
</tr>
<tr>
<td>Self-improvement (CA 19%; MA n/a)</td>
<td>“To become better at what I do.”</td>
</tr>
<tr>
<td>Length of training (CA 19%; MA 11%)</td>
<td>“How much time is available.”</td>
</tr>
<tr>
<td>Novel trainer (CA 12%; MA n/a)</td>
<td>“If it’s a new and interesting trainer.”</td>
</tr>
<tr>
<td>Trainer knowledge (CA 9%; MA n/a)</td>
<td>“The quality and knowledge base of the presenter.”</td>
</tr>
<tr>
<td>Interactive training (CA 7%; MA n/a)</td>
<td>“Whether or not its an interactive training.”</td>
</tr>
<tr>
<td>Novel material (CA n/a; MA 13%)</td>
<td>“Whether or not the material is new. New material is more engaging.”</td>
</tr>
</tbody>
</table>

Relevance to the job alludes to how applicable a training is to the job; organizational support alludes to the culture of the organization as it related to training; self-improvement alludes to the notion that the training in some way improves the individual, trainer knowledge alludes to the skill of the individual providing the training; novel material alludes to whether or not trained material was new; novel trainer alludes to whether or not the presenter was new to the group he/she was presenting to; length of training alludes to how long the time investment was
with respect to completing a training; and finally interactive training alludes to reports of how purely didactic a training was in its delivery.

Figure 6. Prevalence of themes in CA and MA for responses to question #27.

*What positively contributes to and/or influences your actual use of professional development in your work as a special education professional?* In coding responses to this question (#28) in California, seven main themes emerged, while in Massachusetts, six themes to the same question emerged. Those themes, along with the percentage of respondents commenting in each state on this theme and samples of the narrative responses in each theme in
each state are presented in Table 13. A graphical display of prevalence of themes in each state for this question can be seen in Figure 7.

Table 13

*Themes Contained in Qualitative Question #28*

<table>
<thead>
<tr>
<th>Theme</th>
<th>Sample Responses</th>
</tr>
</thead>
<tbody>
<tr>
<td>Relevance to job</td>
<td>“Making it relevant to students with severe disabilities.”</td>
</tr>
<tr>
<td>(CA 45%; MA 79%)</td>
<td></td>
</tr>
<tr>
<td>Organizational support</td>
<td>“Support from admin.”</td>
</tr>
<tr>
<td>(CA 43%; MA 26%)</td>
<td></td>
</tr>
<tr>
<td>Self-improvement</td>
<td>“I have the opportunity to improve my worth.”</td>
</tr>
<tr>
<td>(CA 9%; MA 4%)</td>
<td></td>
</tr>
<tr>
<td>Length of training</td>
<td>“How much time training will take.”</td>
</tr>
<tr>
<td>(CA 2%; MA 11%)</td>
<td></td>
</tr>
<tr>
<td>Novel trainer</td>
<td>“I have a new grad program, I am challenged.”</td>
</tr>
<tr>
<td>(CA 12%; MA n/a)</td>
<td></td>
</tr>
<tr>
<td>Trainer knowledge</td>
<td>“The knowledge the trainer has.”</td>
</tr>
<tr>
<td>(CA 5%; MA 8%)</td>
<td></td>
</tr>
<tr>
<td>Interactive training</td>
<td>“When its <em>hands on.</em>”</td>
</tr>
<tr>
<td>(CA 2%; MA 8%)</td>
<td></td>
</tr>
<tr>
<td>Novel material</td>
<td>“Knowing that they (students) constantly need new ways to be motivated.”</td>
</tr>
<tr>
<td>(CA 9%; MA 8%)</td>
<td></td>
</tr>
</tbody>
</table>

Relevance to the job alludes to how applicable a training is to the job; organizational support alludes to the culture of the organization as it related to training; self-improvement alludes to the notion that the training in some way improves the individual, trainer knowledge
alludes to the skill of the individual providing the training; novel material alludes to whether or not trained material was new; novel trainer alludes to how new a trainer is to the person in the training; length of training alludes to how long the time investment was with respect to completing a training; and interactive training alludes to how didactic a training was.

**Figure 7.** Prevalence of themes in CA and MA for responses to question #2.

*What negatively contributes to and/or influences your actual use of professional development in your work as a special education professional?* In coding responses to this question (#29) in California six main themes emerged while in Massachusetts, five themes
emerged. Those themes, along with the percentage of respondents commenting on this theme
and samples of the narrative responses in each theme in each state are presented in Table 14. A
graphical display of prevalence of themes in each state for this question can be seen in Figure 8.

Table 14

*Themes Contained in Qualitative Question #29*

<table>
<thead>
<tr>
<th>Theme</th>
<th>Sample Responses</th>
</tr>
</thead>
<tbody>
<tr>
<td>Relevance to job</td>
<td>“Making it relevant to students with severe disabilities.”</td>
</tr>
<tr>
<td>(CA 26%; MA 50%)</td>
<td></td>
</tr>
<tr>
<td>Organizational support</td>
<td>“Support from admin.”</td>
</tr>
<tr>
<td>(CA 67%; MA 28%)</td>
<td></td>
</tr>
<tr>
<td>Self-improvement</td>
<td>“I have the opportunity to improve my worth.”</td>
</tr>
<tr>
<td>(CA 9%; MA 4%)</td>
<td></td>
</tr>
<tr>
<td>Length of training</td>
<td>“How much time training will take.”</td>
</tr>
<tr>
<td>(CA n/a; MA 8%)</td>
<td></td>
</tr>
<tr>
<td>Novel trainer</td>
<td>“I have a new grad program, I am challenged.”</td>
</tr>
<tr>
<td>(CA 12%; MA n/a)</td>
<td></td>
</tr>
<tr>
<td>Trainer knowledge</td>
<td>“The knowledge the trainer has.”</td>
</tr>
<tr>
<td>(CA 14%; MA 8%)</td>
<td></td>
</tr>
<tr>
<td>Interactive training</td>
<td>“When its hands on.”</td>
</tr>
<tr>
<td>(CA n/a; MA 10%)</td>
<td></td>
</tr>
<tr>
<td>Novel material</td>
<td>“Knowing that they (students) constantly need new ways to be motivated.”</td>
</tr>
<tr>
<td>(CA n/a; MA 12%)</td>
<td></td>
</tr>
<tr>
<td>Nothing</td>
<td>“Nothing.”</td>
</tr>
<tr>
<td>(CA 7%; MA n/a)</td>
<td></td>
</tr>
<tr>
<td>Challenging topic</td>
<td>“When the topic is challenging.”</td>
</tr>
<tr>
<td>(CA 2%; MA n/a)</td>
<td></td>
</tr>
</tbody>
</table>
Relevance to the job alludes to how applicable a training is to the job; organizational support alludes to the culture of the organization as it related to training; trainer knowledge alludes to the skill of the individual providing the training; length of training alludes to how long the time investment was with respect to completing a training; nothing alludes to the assertion that there is nothing that negatively impacts participation in training; challenging topic alludes to how difficult a training topic is perceived to be; novel material alludes to whether or not trained material was new; novel trainer alludes to how new a trainer is to the person being trained; interactive training alludes to reports of how purely didactic a training was in its delivery; and finally, length of training alludes to how long the time investment was with respect to completing a training.

Question #29 - California
If and when it is the case, when do you actually look forward to professional development training and using what you can from it? In coding responses to this question (#30) in California, six main themes emerged while in Massachusetts, five themes to the same question emerged. Those themes, along with the percentage of respondents commenting on this theme in each state and samples of the narrative responses in each theme in each state are presented in Table 15. A graphical display of prevalence of themes in each state for this question can be seen in Figure 9.
### Table 15

**Themes Contained in Qualitative Question #30**

<table>
<thead>
<tr>
<th>Theme</th>
<th>Sample Responses</th>
</tr>
</thead>
<tbody>
<tr>
<td>Relevance to job</td>
<td>“When I know what I have learned will benefit my students.”</td>
</tr>
<tr>
<td>(CA 61%; MA 67%)</td>
<td></td>
</tr>
<tr>
<td>Organizational support</td>
<td>“When my employer pays for it.”</td>
</tr>
<tr>
<td>(CA 15%; MA 26%)</td>
<td></td>
</tr>
<tr>
<td>Self-improvement</td>
<td>“I enjoy the opportunity to better myself.”</td>
</tr>
<tr>
<td>(CA 32%; MA 14%)</td>
<td></td>
</tr>
<tr>
<td>Length of training</td>
<td>“When my absence from work isn’t long.”</td>
</tr>
<tr>
<td>(CA n/a; MA 11%)</td>
<td></td>
</tr>
<tr>
<td>Trainer knowledge</td>
<td>“When I have heard good things about trainer.”</td>
</tr>
<tr>
<td>(CA 5%; MA 8%)</td>
<td></td>
</tr>
<tr>
<td>Interactive training</td>
<td>“When its <em>hands on</em> and applicable.”</td>
</tr>
<tr>
<td>(CA n/a; MA 9%)</td>
<td></td>
</tr>
<tr>
<td>Novel material</td>
<td>“When it is a new and interesting intervention or strategy.”</td>
</tr>
<tr>
<td>(CA 12%; MA 23%)</td>
<td></td>
</tr>
<tr>
<td>Always</td>
<td>“Always.”</td>
</tr>
<tr>
<td>(CA 15%; MA n/a)</td>
<td></td>
</tr>
</tbody>
</table>

Relevance to the job alludes to how applicable a training is to the job; organizational support alludes to the culture of the organization as it related to training; self-improvement alludes to the notion that the training in some way improves the individual; trainer knowledge alludes to the skill of the individual providing the training; novel material alludes to whether or not trained material was new; always alludes to the assertion that training is always looked forward to; self-improvement alludes to the notion that the training in some way improves the
individual; and finally interactive training alludes to reports of how purely didactic a training was in its delivery.

![Question #30 - California](image1)

![Question #30 - Massachusetts](image2)

*Figure 9.* Prevalence of themes in CA and MA for responses to question #30.

**Comparing Likert Scale Scores with Themes from Open-ended Questions**

High-scoring Likert Scale respondents and themes in open-ended questions. A comparison of responses given to the 4 open-ended questions in the survey was conducted for 10 respondents who scored high on the self-efficacy, motivation, and intent to transfer scales. All respondents in this category scored 5.5 – 7.0 on the 3 scales. The intent of this comparison was
to discover if there were any emerging themes in responses to the open-ended questions that were associated more with high or low scores on the self-efficacy, motivation, and intent to transfer scales.

As can be seen in reading sample responses contained in Table 16, respondents who scored high on the self-efficacy, motivation, and intent to transfer scales seemed to value relevance to job, organizational support and self-improvement above all else with respect to participation in professional development and training and subsequent intent to transfer that training to the special education setting. It is also interesting to note that even when these high scoring respondents had something negative to say about professional development and expectations of training transfer, they tended to do so in a professional, almost neutral manner by using such comments as, “trainings do not pertain to my students” and “no accountability within the organization”.

Table 16

Sample Responses to Qualitative Questions in High Scoring Scales

<table>
<thead>
<tr>
<th>Question</th>
<th>Sample Responses</th>
</tr>
</thead>
</table>
| What impacts your desire to fully engage in professional development training when it is provided to you? | “Time to prepare for the training.”
|                                                                          | “Connection and application to my clients.”                                                                                                         |
|                                                                          | “Many of the trainings that are offered do not pertain to my students.”                                                                             |
|                                                                          | “How much I feel I already know about the topic; how busy I am.”                                                                                      |
| What positively contributes to and/or influences your actual use of professional development in your work as a special education professional? | “Knowing that it will improve my skills and therefore help the students that I work with.”                                                             |
|                                                                          | “It helps when the school gives the resources (materials) and staff to use the skill.”                                                               |
|                                                                          | “It can be applied to my job.”                                                                                                                       |
|                                                                          | “When administrators are supportive of ideas.”                                                                                                         |
| What negatively contributes to and/or influences your actual use of professional development in your work as a special education professional? | “Not having the support or resources necessary.”                                                                                                       |
|                                                                          | “Lack of adherence to the strategies learned; no accountability within organization.”                                                                |
|                                                                          | “Limited staffing in the work place.”                                                                                                                |
|                                                                          | “Lack of resources at work.”                                                                                                                        |
| If and when it is the case, when do you actually look forward to professional development training and using what you can from it? | “When it is relevant to my needs and the areas that I feel that I could improve as an educator or areas that I have a specific interest in.”             |
|                                                                          | “I look forward to training when it is something I know I can use for the benefit of students and staff and when I know that my employer will actually supply resources and what is needed to implement the training.” |
|                                                                          | “I look forward to trainings when a clear objective has been communicated and when I can find relevance for application in my professional life.”   |
Low-scoring Likert Scale respondents and themes in open-ended questions. Similar to the high scoring respondents, a comparison was made of responses given to the 4 open-ended questions in the survey for 10 respondents who scored low on the self-efficacy, motivation, and intent to transfer scales. All respondents in this category scored 3.5 – 5.0 on the 3 scales. The intent of this comparison was to discover what was being said in response to the questions and if there were any emerging themes in responses to the open-ended questions that were associated exclusively with low scores on the self-efficacy, motivation, and intent to transfer scales.

Sample responses for these low scorers were:

As can be seen in reading sample responses to survey questions contained in Table 17, when answering the open-ended question portion of the survey, as was the case with respondents who scored high, respondents who scored low on the self-efficacy, motivation, and intent to transfer scales also seemed to indicate that relevance to job, organizational support and self-improvement as being essential to participation in professional development and training and subsequent intent to transfer that training to the special education setting. The difference however is in the tone of many of the responses contained in the low scoring respondents’ answers, as many of the responses are riddled with undertones of desperation, sarcasm and cynicism.
Table 17

*Sample Responses to Qualitative Questions in Low Scoring Scales*

<table>
<thead>
<tr>
<th>Question</th>
<th>Sample Responses</th>
</tr>
</thead>
</table>
| What impacts your desire to fully engage in professional development training when it is provided to you? | “If I feel I can apply the skills taught in training in my current work setting.”  
“Topic and the way it's presented; sometimes it seems like we are being talked down to; higher ups don't understand what it's like in the trenches; the presenter is boring or strange or awkward.” |
| What positively contributes to and/or influences your actual use of professional development in your work as a special education professional? | “Often times training is meaningless.”  
“Effort to utilize new skills; how it will work in my every day work life; how much I fully understand the concept and what resources are needed.”  
“When I feel what I have learned will help my students and/or staff progress in life.”  
“Relevancy of topic to real classroom problems and academics.”  
“Having enough planning time to implement new strategies”  
“If my supervisors find value and invest time in helping me to effectively apply and reach my professional development goals.” |
| What negatively contributes to and/or influences your actual use of professional development in your work as a special education professional? | “The lack of resources relative to the training.”  
“When training is not easy to use, does not apply, and is not supported to be successful; when the organization is simply asking you to try something new "willy-nilly".”  
“When you my supervisors do not allow me to apply what I have learned in the special education setting; I went to a training on supervision when I came back I developed a questionnaire for staff on their current supervision, my staff and other staff across the school love the idea, but my supervisor was against it.”  
“Gossip, lack of constructive feedback, and lack of professional development.” |
“Hardly ever; professional development mostly refers to hypothetical situations and it is hard to put it in perspective when it comes to the real world classroom.”

“When the professional development is a new skill I can add to my repertoire.”

“I look forward to professional development when the topic grabs my attention to further my skill set...and when my employer pays for it and my absence from work isn't detrimental.”

“The pizza and cookies are certainly highlights of professional development days and most of what we cover seems inconsequential in a field that is so individualized.”

Summary

Results from the quantitative analysis indicate that there is a positive correlation between self-efficacy and motivation, self-efficacy and intent to transfer training, and motivation and intent to transfer training. Although none of these correlations were completely linear, it is the case that correlations between self-efficacy and motivation and self-efficacy and intent to transfer training were moderate in scope while correlation between motivation and intent to transfer training was strong in both the states combined and states separated tests. Results from the quantitative analysis also indicate that none of the demographic variables alone were a statistically significant predictor of self-efficacy or intent to transfer training, yet they were a statistically significant predictor of motivation. A second step in this analysis was then performed in an effort to determine the affect self-efficacy may have, by adding it as a variable. Step 2 of this analysis demonstrated that self-efficacy, as a variable, was indeed predictive of motivation and intent to transfer and it affected the relationship of select demographic variables to motivation and intent to transfer.
When broken down by state, demographic variables were not a statistically significant predictor of motivation or intent to transfer in California. The addition of self-efficacy as a variable in the analysis for California had virtually no effect. In Massachusetts however, demographic variables were indeed a predictor of motivation and intent to transfer when self-efficacy was added as a variable. Overall, demographic variables did predict, to some extent, motivation and intent to transfer skills, however it seems that the key variable with regard to this specific question is the level of self-efficacy and its effect on select demographic variables, motivation, and intent to transfer training. This information will be further explored in the discussion chapter of this doctoral thesis.

Overall, there were several main themes that emerged through the process of coding the qualitative data yielded from the four open-ended questions yet, there was only a single theme that was present and prevalent in responses to all four open-ended questions across participants in both California and Massachusetts. That theme was *relevance to job*. The remaining themes, while still present in responses to the four open-ended questions across both California and Massachusetts were, in general, markedly less prevalent than the theme of relevance to job. These themes included organizational support, self-improvement, trainer knowledge, novel material, length of training, interactive training, always, nothing, and challenging topic. Of these remaining themes, *organizational support* was the most prevalent.

Interestingly, when answering the open-ended question portion of the survey, respondents who scored both high and low on the self-efficacy, motivation, and intent to transfer scales seemed to value relevance to job, organizational support and self-improvement above all else with respect to participation in professional development and training and subsequent intent to transfer that training to the special education setting. Although general themes were similar
regardless of high or low scores on the three scales, those who scored low were more likely to
express frustration and disillusionment with the process of professional development and
expectations of training transfer by using direct and sarcastic comments such as very rarely do I
look forward to it; “willi-nilly”, gossip and lack of professional development; hardly ever
because it deals with hypothetical situations; often times training is meaningless; higher-ups
don’t know what its like in the trenches; and the pizza and cookies are certainly highlights of
professional development days and most of what we cover seems inconsequential. A full
discussion and review of the implications of these results will be included in chapter 5.
Chapter V: Discussion of Findings

Introduction

Improvements in the delivery of special education services tend to occur as researchers and practitioners continually search for new and innovative ways to implement strategies in an effort to provide better quality services and education to students (Joyce & Showers, 2002; Spooner, Algozzine, Wood, & Hicks, 2010). This can only happen if staff members in special education are subjected to frequent and updated training. Unfortunately, there is recent evidence to suggest that only a small percentage of what is learned in professional development is ever actually transferred to the work environment (Kazbour, McGee, Mooney, & Brinkerhoff, 2013). With respect to this problem, researchers have contended that self-efficacy may play a role in this issue by predicting motivation and in turn, intent to transfer training (Machin & Fogarty, 1997, 2004; Chiaburu & Marinova, 2005; Chiaburu & Lindsay, 2008).

This chapter is presented in six sections. The first section will present a review of the present study’s purpose followed by a section reviewing the methodology and another detailing the overall findings and the findings in relation to both the theoretical framework and literature review in this study. Next, key findings are presented based on both the quantitative and qualitative data collected, as are implications for the field of training and professional development in special education. Possibilities for future research will then be presented followed by a final summary.

Review of the Problem

Politics, educational mandates and best educational and clinical practices require special education professionals to implement new practices when teaching special education students (Roscoe & Fisher, 2008; Spooner, Algozzine, Wood, & Hicks, 2010; Graff & Karsten, 2012). It is often the case, however, that training alone is not sufficient to ensure proficiency and
implementation of newly trained standards (Parsons, Rollyson & Reid, 2012). As a persistent problem, reliable training transfer has proven to be an elusive goal to reach. As a potential explanation of this problem, researchers have asserted that self-efficacy may play a role in terms of effective training and professional development (Machin & Fogarty, 1997, 2004; Chiaburu & Marinova, 2005; Chiaburu & Lindsay, 2008).

Understanding the nature of the relationship between self-efficacy and motivation and self-efficacy and intent to transfer skills and the predictive nature of number of years experience in the field, highest degree earned and gender may provide key insight for trainers and supervisors in professional development in special education. To this end, self-efficacy has been investigated as a factor in better understanding how people and their performance may be managed and maximized from the human resources perspective (Gist, 1987). Other contributing factors such as motivation and intent to transfer training have also been shown to play a key role in assuring professionals are implementing up to date practices in the work setting. Still, the question of what exactly contributes to one’s motivation and intent to transfer training persists, even in light of research into independent variables made up of various treatment packages aimed at improving staff performance. Insight into self-efficacy, motivation and intent to transfer skills along with any meaningful information garnered with respect to the predictive nature of demographic variables on self-efficacy, motivation and intent to transfer could also be used to inform the type of training to be employed, as well as providing guidance regarding steps to be taken to verify that trained skills have actually been transferred to the work setting once training has concluded.
Review of the Methodology

In an effort to shed light on the issue of training transfer in special education, a modified 30-question survey based on earlier surveys used by Machin and Fogarty (1997, 2004) was created. This survey was distributed to special education professionals in California and Massachusetts. The survey contained 26 questions scored on a 7-point Likert Scale, as well as 4 open-ended questions. The purposes of the survey were to collect information regarding the correlations between self-efficacy, motivation and intent to transfer skills, along with information regarding the predictive nature of demographic variables as they relate to self-efficacy, motivation and intent to transfer skill, and to gather rich information regarding perceived obstacles people encounter in maximizing their success in professional development and training and their subsequent intent to actually use the trained skills learned in the work setting. To this end, two quantitative research questions and accompanying hypotheses, as well as one qualitative research question were posed in this study:

**Research question 1.** What is the correlation between self-reported level of self-efficacy and special education staff members’ motivation to learn and intent to transfer training?

**Research question 2.** To what extent do number of years of experience, highest degree earned and gender predict special education staff members’ self-reported levels of self-efficacy, motivation to learn and intent to transfer training?

**Hypothesis 1.** There will be a positive correlation between self-efficacy, motivation to learn and intent to transfer training.

**Hypothesis 2.** Self-reported level of self-efficacy, motivation to learn and intent to transfer training will be predicted by years of experience, highest degree earned and gender.
**Research question 3.** What are the factors special education professionals identify as impacting their a) ability to fully engage in training; b) ability to learn and master the training material; c) ability to apply what they learned in training to their actual job?

**Summary of Findings**

Results from the quantitative analysis of research question 1 indicate that there was a positive correlation between self-efficacy and motivation, self-efficacy and intent to transfer training, and motivation and intent to transfer training. None of these correlations were completely linear however. The correlation between motivation and intent to transfer training was strong while the correlations between self-efficacy and motivation and self-efficacy and intent to transfer training were simply moderate.

Step 1 of the quantitative analysis of research question 2, examining the predictive nature of number of years experience in the field, highest degree earned and gender, indicated that none of these demographic variables were a statistically significant predictor of self-efficacy, motivation or intent to transfer training. Step 2 of the demographics analysis however demonstrated that when self-efficacy was added in as a variable to the analysis, it was itself indeed predictive of motivation and intent to transfer training and, further, it had an modified the relationship between select demographic variables and motivation and intent to transfer skills. For example, when self-efficacy was added as a variable in the states combined demographic analysis, gender and state were then a statistically significant predictor of motivation. Thus, the key variable with regard to the demographics question seems to be the level of self-efficacy and its effect on demographic variables and their relationship to motivation and intent to transfer training.
With respect to the qualitative analysis of the 4 open-ended questions, there were several main themes that emerged; however, there was only a single theme that was prevalent in responses to all four open-ended questions across participants and states. That theme was *relevance to job*. In further analysis of the qualitative information provided in the 4 open-ended questions, respondents who scored high or low on the self-efficacy, motivation, and intent to transfer scales shared ideas and themes, as they identified *relevance to job, organizational support* and *self-improvement* as being vitally important to their active participation in professional development, training and their subsequent intent to transfer that training to the special education setting.

Important general themes in the open-ended question responses were similar regardless of high or low scores on the three scales contained in the survey but those who scored low clearly expressed frustration with the process of professional development training and organizational and supervisor expectations of training transfer by employing pointed and sarcastic comments such as *very rarely do I look forward to it; “willi-nilly”, gossip and lack of professional development; hardly ever because it deals with hypothetical situations; often times training is meaningless; higher-ups don’t know what its like in the trenches; and the pizza and cookies are certainly highlights of professional development days and most of what we cover seems inconsequential.*

**Key Findings**

After a thorough review of the findings as presented in Chapter 4 and above, the following Key Findings are presented for consideration by those designing, developing, and implementing professional development and training for special education educators.

**Key finding 1.** The hypothesis for research question 1 indicated that there would be a positive correlation between self-efficacy, motivation and intent to transfer trained skills.
Results of the analysis of research question 1 indicate that there was indeed a positive correlation between self-efficacy and motivation, self-efficacy and intent to transfer training and motivation and intent to transfer training. The discovered correlations between these variables in this study were positive and ranged from moderate to strong in scope. This is important as previous research in the area of self-efficacy and its potential affect on variables such as motivation and intent to transfer skills has shown that in fact self-efficacy in many cases correlates to and in other cases actually predicts motivation and intent to transfer skills (Kontoghiorghes, 2002; Machin & Fogarty 1997, 2004; Switzer, Nagy, & Mullins 2005; Chiaburu & Marinova, 2005; Chiaburu & Lindsay, 2008).

The fact that moderate to strong positive correlations were found in this study between self-efficacy and motivation, self-efficacy and intent to transfer skills and motivation and intent to transfer skills is significant, as it supports previous findings in the literature and it lends credence to the statement by Bandura that “expectations of personal efficacy determine whether coping behavior will be initiated, how much effort will be expended, and how long it will be sustained in the face of obstacles and aversive experiences” (Bandura, 1977, p. 191). In this statement, clearly Bandura was referencing his belief that personal efficacy played a role in whether or not patients experiencing mental health issues would be able to meaningfully participate in treatment despite facing obstacles to successful treatment. If however the crux of this statement is extrapolated out and placed in the context of the results attained for research question 1 in the current study, Bandura would likely agree that self-efficacy determines the extent to which people are motivated, despite obstacles, to engage in professional development and training all the way up to and including an intent to transfer those trained skills to the work setting.
**Key finding 2.** The hypothesis for research question 2 indicated that self-reported level of self-efficacy, motivation and intent to transfer training would be predicted by years of experience, highest degree earned and gender. The analysis for this question was split into two steps. In the first step, demographic variables alone were tested as predictors of self-efficacy, motivation to learn and intent to transfer skills. In the second step, self-efficacy was added into the analysis as a variable to test its predictive nature on motivation and intent to transfer skills as well as to report on any potential ancillary changes it may induce in the other demographic variables by virtue of its inclusion as a variable in the analysis. Results of the analysis of research question 2 indicate that a) self-efficacy, motivation and intent to transfer skills were not significantly predicted by any of the three original demographic variables targeted in this study (number of years experience in the field, highest degree earned, gender); b) self-efficacy itself was a statistically significant predictor of motivation and intent to transfer skills; c) self-efficacy exercised an effect on the relationship between select demographic variables and motivation and intent to transfer skills when it was introduced as a potentially predictive variable in step 2 of the analysis.

Although this analysis indicated that self-efficacy, motivation and intent to transfer were not significantly predicted by years of experience in the field, highest degree and gender, it did in fact indicate that when self-efficacy is added in as a variable in the predictive analysis, the nature of the relationship between select demographic variables and motivation and intent to transfer may change. This was evidenced in the fact that when self-efficacy was added into the analysis, not only was self-efficacy statistically significant in predicting motivation and intent to transfer skills, but other variables, gender for example, then became a statistically significant predictor of
motivation in the states combined analysis and for California responses in the states separated analysis.

This information is important on different levels. Conclusions in this analysis of demographic information support the theory that individual differences may be correlated to and hence influence success in the work environment (Judge, Jackson, Shaw, Scott & Rich, 2007) and in transferring trained skills to the work environment (Chiaburu & Lindsay, 2008), albeit that in this analysis these individual differences, such as gender, may be influenced by reports of self-efficacy. Further and perhaps most importantly, conclusions in this analysis of demographic variables supports previous literature that has demonstrated the predictive nature of self-efficacy as it relates to motivation and intent to transfer skills (Kontogiorghes, 2002; Machin & Fogarty, 1997; Switzer, Nagy & Mullins, 2005; Zimmerman, 2000) because it supports the theory that self-efficacy predicts motivation and expectations of intent to transfer skills from the training room to the work setting.

**Key finding 3.** Research question 3 sought to isolate themes provided in responses to open-ended questions targeting people’s thoughts with respect to a) an ability to fully engage in training; b) an ability to learn and master training material; c) an ability to apply what is learned in training to the actual job setting. In summarizing the qualitative data, several main themes emerged through the process of coding responses to the four open-ended questions yet overall, one theme emerged as clearly the most important with respect to active participation in training and intent to transfer skills learned in training to the work setting. That theme was *relevance to job.*

Additionally, two other themes were also clearly important to the participation in training and intent to transfer skills process. Those two themes were *organizational support* and *self-
improvement. This is important in terms of furthering and strengthening our understanding of what affects people’s willingness to fully engage in training from its inception all the way up to an intent to actually transfer the trained skills to the work setting because it supports previous literature where individual attitudes and organizational factors were found to be important in defining willingness to participate in and drive to succeed in and actually use skills taught in training (Seyler, Holton III, Bates, Burnett & Carvalho, 2000; Egan, Yang & Bartlett, 2004; Egan, 2008).

Findings in Relation to the Theoretical Framework

The theory of self-efficacy provided the framework under which the present study was conducted. As discussed in chapter 1, self-efficacy descended from social learning theory, which asserts that interactions between a person and the environment are influenced by beliefs and cognitive competencies that are mediated by social influences. It is this idea that is most central to the findings in the present study. Bandura (1977) attempted to verify his hypothesis that an individual’s self-efficacy directly affects how that individual will react in certain situations. Later research followed suit and actually went so far as to describe self-efficacy as the “primary determinant” of behavior change (Sherer, et al., 1982, p.663).

Generally speaking, those with high self-efficacy see challenging tasks as challenges to be overcome while those with low self-efficacy see them as threats to be avoided (Bandura, 1993). With respect to the findings in this doctoral thesis, self-efficacy is an extremely important variable in being able to identify with any confidence, the likelihood that special education professionals will be motivated (or will not) to participate in professional development and training and beyond that, will (or will not) be motivated to actually transfer the skills they have learned in the training room to the work setting.
In research question 1, the hypothesis was that there would be a positive correlation between self-efficacy and motivation, self-efficacy and intent to transfer, and motivation and intent to transfer. As has been discussed, this was indeed the case. The correlation between self-efficacy and motivation and self-efficacy and intent to transfer was at a minimum, demonstrated to be moderate in strength. This would then lead one to infer that in fact, the higher one scores on a measure of self-efficacy, the more likely one is to be motivated to train and be intent on transferring trained skills to the work setting.

In research question 2, the hypothesis was that demographic variables, namely number of years experience in the field, highest degree earned, and gender would predict self-efficacy, motivation and intent to transfer skills. In actuality, none of these variables predicted self-efficacy, motivation of intent to transfer skills. In light of this, a second phase of the analysis was constructed where self-efficacy itself was added, as a variable, along with the other three demographic variables to see if it would have a predictive affect on motivation and intent to transfer skills. While the predictive nature of the three original demographic variables was not significant in most scenarios even with self-efficacy added as a variable, the predictive nature of self-efficacy on motivation and intent to transfer was significant. In addition to this, when self-efficacy was added as a variable, the relationship of some of the demographic variables to motivation and intent to transfer skills was altered to some degree, demonstrating again, the importance of self-efficacy in answering the intent to transfer skills question.

Recall how in 1997, Machin and Fogarty examined that manner in which self-efficacy may influence intent to transfer training by using the LISREL VII (Jorsekog and Sorbom, 1989), which was a tool that measured linear structural relations among variables. In that research, Machin and Fogarty found that self-efficacy was significantly correlated to participant intent to
transfer training. This finding is important in the evolution of self-efficacy as a variable relating to transfer intent and in direct relation to the findings in this doctoral thesis in both research question 1 and 2. In research question 1 of the current study, there was a positive correlation found between self-efficacy and motivation. This was also found in the Machin and Fogarty study. Additionally in the current study, self-efficacy and intent to transfer and motivation and intent to transfer were also found to be positively correlated, while in research question 2, self-efficacy was shown to predict both motivation and intent to transfer.

This is vital as, out of the research by Machin and Fogarty, implications regarding assessing trainee likelihood of transfer success or failure after training were asserted given indications in that study that lower reported self-efficacy was related to lower goal setting and lower commitment to seeing those goals through. The findings in the current study support this, given the positive correlations between self-efficacy, motivation and intent to transfer that were discovered. This support is strengthened given that this study also showed that self-efficacy actually predicted motivation and intent to transfer.

**Findings in Relation to the Literature Review**

Although research studies into self-efficacy, motivation and intent to transfer skills have been approached as individual problems, there is also much research that illustrates that the three are intertwined and related. Gist (1987) for example, defined self-efficacy as “one’s belief in one’s capability to perform a task” (p. 472) as she described a research project involving restructuring and merger with the AT&T Corporation. Gist suggested that if AT&T had taken the time to employ self-efficacy measures with individuals, more success may have been observed and hence a smoother transition for managers into the newly the reshaped AT&T Corporation may have been the result. Clearly this demonstrates how measuring self-efficacy of
individuals and groups before something like a merger (or training, as is the case in the current study) may improve success. Findings in other studies (Karl, O’Leary-Kelly, & Martocchio, 1993; Machin & Fogarty, 1997) in addition to the Gist study, as well as findings in the current study for research questions 1 and 2 support the importance of self-efficacy in performance of assigned tasks.

Carlson, Bozeman, Kacmar, Wright and McMahan (2000) reported that self-esteem and training self-efficacy, were positively related to training motivation. The results in that study seem to indicate that identifying higher training motivation may result in greater likelihood that people entering such training programs are likely to maximize their success in them. In a more general sense, results of that study taken with the results of Seyler, Holton III, Bates, Burnett, and Carvalho (2000), in which they stated that allowing staff to become more familiar with computers before using them in a training, providing trainees with an opportunity to build confidence and may increase motivation to meaningfully participate in training. As it relates to this doctoral thesis, this indicates that a possible tool that trainers, managers, and supervisors may use in preparing trainees for training is in the understanding of variables such as self-efficacy and confidence and how they may affect trainee-training motivation.

Following suit, this doctoral thesis relates to work by Chiaburu and Marinova (2005), who performed a study that indicated that trainees with higher levels of self-efficacy were in fact more motivated to train than trainees with lower levels of self-efficacy. As a result of higher motivation, those participants with higher self-efficacy also reported higher levels of skill transfer. Those findings were strengthened with the results found in research question 1 and 2 in the current study, as there was a positive correlation discovered between self-efficacy, motivation and intent to transfer skills along with the fact that self-efficacy was found to actually
be a predictor of both motivation and intent to transfer skills.

The literature review in this doctoral thesis discussed previous findings in the research that organizational factors such as transfer climate (Rouiller & Goldstein, 1993) and learning cultures (Egan, Yang & Bartlett, 2004) as well as individual factors such as self-efficacy and motivation (Machin & Fogarty, 2004; Al-Eisa, Furayyan & Alhemoud, 2009). All of these themes are certainly prevalent in the examination of both the quantitative data, where self-efficacy was found to be correlated to and predictive of motivation and intent to transfer trained skills and in qualitative data collected and analyzed with respect to the 4 open-ended questions in the survey, where organizational support was repeatedly mentioned as an important factor in meaningful participation in professional development training and intent to transfer those trained skills to the work setting.

Finally and perhaps most importantly, as recently as a few years ago researchers were demanding more investigations in the field (Gegenfurtner, Festner, Gallenberger, Lehtinen & Gruber, 2009). Specifically, if the reader recalls from the literature review, Gegenfurtner, Festner, Gallenberger, Lehtinen and Gruber explicitly stated that more theoretical references for transfer are needed in the research. To this end, in their study, they employed a combination of expectancy theory, self-determination theory, and the theory of planned behavior to examine individual attitudes toward training, in an effort to try and identify categories of motivation.

The results reported by Gegenfurtner, Festner, Gallenberger, Lehtinen & Gruber (2009) indicated that attitudes towards training have a moderate effect on motivation to transfer, which implies that attitudes trainees have toward training content may have an effect on whether or not they are more or less motivated to apply new skills on the job. This information is consistent with results of this doctoral thesis, as results in the current study indicate that in fact reports of
self-efficacy not only correlate to motivation to train and intent to transfer training, but it actually predicted motivation and intent to transfer. To reiterate, this is an important point as it then implies that if one is in possession of such knowledge, as a trainer, one can make attempts at changing attitude toward training and shaping motivation to be more positive, especially in the pre-training phase, as suggested by Weissbein, Huang, Ford and Schmidt (2011).

Conclusions and Implications for Practice

Pre-training issues. Findings in the current study indicate that self-efficacy and motivation clearly play a major role in pre-training preparation. The main findings here with the qualitative data are that self-efficacy is positively correlated to and predicts motivation and intent to transfer trained skills and that motivation has a strong, positive correlation to intent to transfer trained skills. The implication here is that pre-training measures of self-efficacy and motivation would likely inform trainers and organizations which trainees are likely to be more willing and motivated to train and hence, if more motivated to train, more likely to make an effort to transfer those trained skills to the work place.

The big three. The main finding in the qualitative data suggests that above all other factors, the magnitude with which a training is seen by the trainee as being relevant to the job, the organizational support systems in place to encourage training and training transfer and opportunities for self-improvement are absolutely vital to an employee in special education committing to meaningful participation in training followed by an intent to actually transfer the skills learned in training to the work setting. The obvious implication here is that employers, trainers and organizations should take extra steps in making certain that a) professional development training that is offered and provided to special education professionals be relevant to the work that is being done in the actual work setting, b) there are sufficient systems in place
within the organization to not only support training, but the use of trained skills in the workplace and c) that the staff who are being trained feel that the training they are undergoing in some way shape or form improves their standing as a professional in the field.

To this end, perhaps a more specific measure of the history that individuals have with professional development and the degree to which they perceive it as having been valuable and the degree to which they believe professional development can be of value would be beneficial prior to training. For example a pre-training history of professional development measure similar to the self-efficacy, motivation, and intent to transfer scales used in the current study may be created and used. Likewise, perhaps more qualitatively based brief interviews or open-ended questions specific to an individual’s history with and/or thoughts on the professional development process could be employed, in an effort to gauge pre-training pre-conceived notions of professional development. Information gathered in this area may then lead organizations and those responsible for professional development and training to make adjustments to the manner in which training is delivered in an effort to make the employee more successful. This strategy would take some of the training burden off of the employee and would instead place the onus on the employer to set the occasion for the employee to be more motivated and successful not only in the training, but in actually transferring those skills to the work setting because the information gathered would force the organization to find a way for the employee to be successful in professional development. Of course, the onus is also on institutions to ensure that professional development is of value and implemented in a way that participants see it as valuable and in turn desire to use it to inform future practice.

Future Research

Future research in the area of intent to transfer skills in the special education setting may seek to build on the findings in the current study. For example, findings here indicate that there
was not only correlation between self-efficacy and motivation and self-efficacy and intent to transfer skills, but that self-efficacy in fact predicted motivation and intent to transfer skills. Perhaps it would be valuable for researchers to dig deeper from a qualitative perspective in an attempt to gather even richer information in the form of interviews in an effort to isolate more detailed themes that may emerge with respect to organizational support in training and training transfer. Additionally, it may be interesting and important to take information from the current study which indicates that self-efficacy and motivation play a role in meaningful participation in professional development and that the relevance of training to the job along with organizational support and opportunities at self-improvement and examine the extent to which these variables actually set the occasion for skills to be transferred. To this end, this study could be replicated and then extended to include a component that investigates whether or not transfer of training actually occurred in the work setting, post training.

**Personal Reflection**

At the time the research for this doctoral thesis was conducted I had been employed in special education and applied behavior analysis for more than 20 years. Almost immediately as I began my career back in 1995, I could see that on the job performance of staff members, including myself, varied a great deal across staff. As I continued to work in the field accruing years of experience and various degrees and certifications, as well as being routinely promoted into higher positions within special education departments and organizations, this problem became more obvious and, as a supervisor, more urgent.

Over my career prior to entering into the doctoral program in education at Northeastern University, I had done fairly extensive research into treatment integrity, which for all intents and purposes is similar to intent to transfer training (the focus of this doctoral thesis). That research
focused on interventions that could be employed as independent variables in an attempt to increase the integrity with which teaching procedures and behavior plans would be implemented in a special education setting. In general, this particular field of research has found that there are many strategies that may be used to increase such implementation.

As I continued in the fields of special education and applied behavior analysis, two main issues struck me as problematic with research into treatment integrity. The first issue was that the research was single-subject in design, meaning we only compared results at the end of the research to baseline measures taken on that same individual’s behavior prior to implementing the independent variable (the intervention to boost treatment integrity). The second issue was that none of that research investigated why staff members were not transferring the training they received, such as in the case of a new teaching procedure, to the work setting. In conducting the current research, my objective was really twofold, as I sought to investigate the why regarding the issue of lack of intent to transfer training as well as attempting to answer questions on a larger and hopefully more meaningful and generalizable scale, which is difficult when conducting single-subject research.

As I reflect now on this study, I am struck that much of the data, both quantitative and qualitative, is reflective of information found in previous literature. Positive correlation found in this study between self-efficacy, motivation, and intent to transfer is not surprising, nor is the finding here that self-efficacy is predictive of motivation. In addition, it is clear that when training is relevant to the job and when individuals feel that professional development training and transfer of training is supported by organizational systems, participants are more likely to be motivated and intent on transferring their training. What is surprising to me is that more organizations are seemingly either not aware of this type of information or, even more
concerning, they are aware of it and still not using it to make professional development and
training more useful and meaningful for their organizations and the individuals who put forth the
effort to sustain and grow them. My hope is that the information relayed in this doctoral thesis
might contribute not only to the knowledge base within professional development and training,
but also that organizations might use this information to make better informed decisions about
how to best tailor professional development and training so it sets the occasion for both
organizational and individual employee success.
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Appendix A

Survey

Participation in this survey is completely voluntary. The information will be used for scholarly purposes as part of a doctoral program (Ed.D.). There are no direct risks or benefits to completing this survey, as you are simply being asked to reflect on your career and professional development. The purpose of this survey is to ask you about your thoughts regarding training and professional development as they relate to your career. You do not have to fill out any question that makes you uncomfortable and you can withdraw from participation at any time. This survey should take approximately 15 minutes. Your answers are anonymous, so please feel free to answer honestly. Thank you for your participation. If you have any questions about this study and/or would like to receive the results of this survey please contact: Shawn Kenyon via email: s.kenyon@neu.edu or phone: 508-826-7768.

Demographic information:

Please check the appropriate box.

How many years of professional experience do you have in special education?

( ) 0 - 3   ( ) 4 – 6   ( ) 7 – 9   ( ) 10 – 15   ( ) 15 – 20   ( ) More than 20

What is your highest diploma or degree earned?

( ) No diploma or degree   ( ) HS diploma   ( ) Associate’s Degree   ( ) Bachelor’s Degree
( ) Master’s Degree   ( ) Doctoral Degree

Which gender do you identify yourself as?

( ) Female   ( ) Male   ( ) Self-Defined ____________________

Part 1:

For part 1, think about how you feel upon entering training. Please score the following statements as they relate to you, by circling the appropriate number.

1 – Not at all; 2 – Slightly; 3 – More than slightly; 4 – Partially; 5 – More than Partially; 6 – Mostly; 7 – Extremely

1) I feel confident that I am able to master the material presented in the training.

1  2  3  4  5  6  7

2) I feel confident that I can perform satisfactorily in the training.

1  2  3  4  5  6  7
3) I feel confident that I will effectively use the skills taught in the training.
   1 2 3 4 5 6 7

4) I feel confident that I will develop expertise in the skills taught in the training.
   1 2 3 4 5 6 7

5) I feel confident that I can overcome obstacles to using the skills taught in the training.
   1 2 3 4 5 6 7

6) I expect that investing effort in the training will result in my achieving a high level of success in the training.
   1 2 3 4 5 6 7

7) I expect that my success in the training will result in better on the job performance.
   1 2 3 4 5 6 7

8) I expect that doing my best in the training will be beneficial to me.
   1 2 3 4 5 6 7

9) Doing my best in the training is important to me.
   1 2 3 4 5 6 7

10) Doing my best in the training is a source of satisfaction for me.
    1 2 3 4 5 6 7

11) My organization values professional development as a top priority.
    1 2 3 4 5 6 7

Part 2:
For part 2, think about how you feel upon completing a training. Please score the following statements as they relate to you, by circling the appropriate number.

1 – Strongly disagree; 2 – Mostly disagree; 3 – Partially disagree;
4 – Neither disagree nor agree; 5 – Partially agree; 6 – Mostly agree; 7 – Strongly agree
1. I will discuss with my supervisor, ways to develop the skills I have learned.

2. I will discuss with my co-workers, ways to develop the skills I have learned.

3. I will spend time thinking about how to use the skills I have learned.

4. I will evaluate how successfully I can use the skills that I have learned.

5. I will look for opportunities to use the skills that I have learned.

6. I will review training materials in order to develop the skills that I have learned.

7. I will practice using the skills that I have learned.

8. I will set specific goals for maintaining the skills that I have learned.

9. I will seek expert help/advice in order to maintain the skills that I have learned.

10. I will examine my work environment for potential barriers to using the skills that I have learned.

11. I will monitor my success at using the skills that I have learned.
12) Professional development and training is helpful to me.

1     2     3     4     5     6     7

Part 3:

For part 3, questions 1 - 6 ask you to describe your thoughts regarding professional development and training. Please answer as completely as you feel you need to in order to make your point, as you reflect on your state of mind when participating in job specific training and professional development.

1) What impacts your desire to fully engage in professional development training when it is provided to you?

2) What positively contributes to and/or influences your actual use of professional development in your work as an educator?

3) What negatively contributes to and/or influences your actual use of professional development in your work as an educator?

4) If and when it is the case, when do you actually look forward to professional development training and using what you can from it?