HYBRID LEARNING: A STUDY OF TRAINING ENVIRONMENT AND TRAINING TRANSFER IN ECUADOR

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A Dissertation Presented in Partial Fulfillment

Of the Requirements for the Degree

Doctor of Philosophy

Capella University

December 2013

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Abstract

Training transfer can be analyzed in the workplace by studying the results of a validated instrument like the Learning Transfer System Inventory (LTSI) developed by Holton and Bates (2011). This correlational study used the Spearman rho correlation coefficient to examine the relationship between transfer design and opportunity to use learning as measured by the LTSI, and the test scores from a group of Ecuadorian adult learners who received training in a hybrid-learning environment. Findings from the study showed that there is no significant relationship between transfer design, opportunity to use learning and the test scores of a group of adult learners. However, the participants of this study considered that the learning objectives and the training material were appropriate to their learning needs and they considered that they had the necessary resources to apply new learning back into the workplace. Researchers investigating training transfer could benefit from understanding what factors promote or hinder training transfer in a Latin American context.

Dedication

This dissertation is dedicated to my family that inspired and encouraged me to fulfill this dream. My precious sons Isidro and Samuel who have been part of this journey and have lived the sacrifice of not spending time with me while I was studying. I hope that you will remember this part of our lives as an example of how we are able to fulfill our dreams by working hard and having determination. To my husband Joe, you have been my pillar, my "team mate" throughout this journey. Without your love and support I would have never been able to accomplish this dream. To my Mom, the most amazing woman I know. Thanks for helping me be the person I am. Thanks for listening to every story I had to tell you about this process, for your unconditional love, and encouragement. To my sister, who has always been there for me. To Pepe and Susi, who are part of my family, for their kind words, love, and support. To my grandmother Alicia, who is continuously concerned about my well-being. To my grandfather Arturo, who along with my grandmother were teachers and have been an example of dedication and passion. To my Dad, who is watching over me and has helped me in his special way.

Acknowledgments

I want to thank several people that have helped me throughout this process. Thanks Dr. Emmons, my mentor and committee chair for your continuous support and feedback and for being "present". Thanks Dr. Bullock and Dr. Orizondo-Harding, committee members, for your time and guidance. Thanks to Arturo, Nascira, Santiago, and Carla for your disinterested help in translating the instrument I used in my study. Thanks Matias for answering my questions and for your constructive feedback. Thanks Alvaro for taking the time to review my initial drafts and for always being concerned about my progress. I want to give a special thanks to Ana Maria, who believed in my dream and has supported me in many ways since I started this journey. I want to thank Dr. Reid Bates for not hesitating to answer all of my questions about the instrument and the translation process. Thanks USFQ for providing me with opportunities to develop as a professional and to do what I love: teach.

Thanks to all of those who have helped me in any way to achieve this dream.

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CHAPTER 1. INTRODUCTION

Introduction to the Problem

Despite an investment of more than $156 billion on corporate training in the United States in 2012, corporate employers cannot be certain whether the training received by their employees has actually resulted in better practices within the workplace (Miller, 2012). Khasawneh, Bates, and Holton (2006) suggested that only 10 or 15 percent of what should be learned in training programs is actually applied on the job and also that "the precise amount of transfer that occurs across training programs has not been empirically determined " (p.181). Employers thus may not have accurate information about whether their investments in corporate training actually yield any results.

This quantitative study of training transfer and learning environment focused on hybrid-learning among a group of adult learners in Ecuador. One purpose of the study was to help employers gain a better understanding of how training might be transferred into the workplace after their employees receive training in a hybrid-learning environment.

Background, Context, and Theoretical Framework

This section presents the background of the research problem, the context, and a summary of the theoretical framework. The background section includes an overview of training transfer while the context explains how training transfer is managed in Ecuador.

The theoretical framework presents a summary of the three theories that guided this study.

Background

Transfer of learning in an individual refers to his or her ability to process information in a context other than the one where the learning originated (Haskell, 2001). Transfer is one of the main objectives of adult educational programs, and according to Ford and Weissbein (1997), it is "the extent to which knowledge and skills acquired in a training setting are generalized and maintained over a period of time in the job setting" (p. 34). However, there is evidence that transfer of learning to the workplace is not high even though employers in the United States spend every year approximately $156 billion on training programs (Haskell, 2001; Miller, 2012).

One of the first attempts to explain training transfer was done by Orata (1928), who defined training transfer as the ability to replicate what was learned during training in a different context. The concept of training transfer has evolved to include other variables like motivation, supervisor and peer support, work environment, learning environment, and transfer design as possible factors that could promote or hinder transfer (Holton, Bates, Noe and Ruona, 2000). A quantitative instrument, the Learning Transfer System Inventory (LTSI), was developed in order to measure 16 factors that influence how employees transfer what they learned into their workplace (Holton, 2005).

Context

This study was performed in Ecuador, a Latin American country that for the last 5 years has started to develop both public and private initiatives in terms of training transfer and learning in a hybrid learning environment (SECAP, 2013; Escuela de Empresas,

2013). The national government offers both online and face-to-face programs in topics such as computer skills, business administration, and mechanical engineering among others (SECAP, 2013).

In terms of training transfer, the national government does not apply a concrete instrument to measure how trainees are transferring back what they learned (SECAP, 2013). On the other hand, private corporate training organizations are starting to monitor how employees are applying what they learned in their particular work setting by conducting in-depth interviews with both employers and employees (Escuela de Empresas, 2013). However, a quantitative instrument like the LTSI has not been used prior to this study in any country of Latin America (R. Bates, personal communication, August 20, 2013). By applying this instrument, employers working at private or public organizations could benefit from knowing concrete factors that promote training transfer.

Theoretical Framework

Three theories guided this study: experiential learning theory, transformative learning theory, and metacognitive theory. These theories are based on the principles of andragogy developed by Knowles in an attempt to explain how adults learn. The main premises of andragogy suggest that adult learners are self-directed, have accumulated many experiences that help them connect prior and new learning, are more interested in learning when they can envision a connection between new information and their personal or professional roles, and when they are able to immediately apply what they have learned (Merriam, Caffarella & Baumgartner, 2007).

Educators working in corporate training could consider the principles developed by Knowles when delivering corporate training. Dobrovolny (2006) suggested that

including self-paced activities allows adult learners to become more self-directed in their learning. Trainers could create discussion forums to allow adults to share their experiences and learn from their peers (Dobrovolny, 2006). By including such discussions, learners could be able to connect prior to new learning and find learning relevant (Merriam, Caffarella & Baumgartner, 2007).

Experiential learning theory consists of a process in which adults are constantly learning and growing from their personal and professional experiences. Adults are engaging in critical reflection about previous mental paradigms, and are involved with their environments in order to construct their own learning by discovering what is useful for them (Kolb & Kolb, 2005). Corporate training constitutes a part of learners' continuous development process. By using the principles of experiential learning theory, trainers can help adult learners construct their own learning, which can then be applied in the work environment.

Transformative learning is the process through which adults confront their previous perspectives in order to adopt new points of view after reflection and questioning (Mezirow ,1997). Transformative learning theory relates to training transfer since adults are being challenged to reconsider their frames of reference by acquiring new knowledge. Corporate trainers could benefit from understanding the theoretical implications of experiential and transformative learning theories.

The third theory that guided this study is metacognitive theory. This theory intends to explain how adults process new information in terms of their metacognitive processes (Schraw, 1998). Facilitators that would like to promote training transfer could start to become aware of their trainees' metacognition processes and they could

implement particular instructional strategies to help adult learners who are unable to perform certain skills (Schraw, 1998). Also, if learners are able to understand their metacognition processes they will know how they can maximize their learning experiences (Schraw, 1998).

Statement of the Problem

Employers around the world invest time and money in corporate training, but they are unaware of how to measure training transfer within their organizations. Managers have realized that in order for their companies to be competitive in a globalized economy they require trained human capital (Orue-Carrasco, Malcón-Cervera & Martinez-Flores, 2011).

Adult educators that provide corporate training are responsible for delivering training that employees will transfer back into the organization. That is why "practitioners make every effort to include real-life applications in their programs, and acting on learning (or sometimes "transfer of learning" meaning application in the world outside of the classroom) is often described as the goal of education" (Cranton, 2006, p. 4). Educators working with adults in corporate training face the challenge of including practical activities in order for adults to immediately apply the new learning in their personal or professional lives (Cranton, 2006).

Corporate educators can evaluate the extent of training transfer in the organizations by distributing the LTSI to employees who have participated in training efforts. The LTSI is a validated instrument that was developed to measure 16 factors that influence training transfer in public, private, or non-for-profit settings (Holton, 2005).

Analyses of LTSI results can help organizational leaders determine which factors promote or hinder training transfer.

Adult educators from Ecuador could similarly benefit from a presentation of LTSI results from corporate training. While there are many different adult education environments in the country, analyzing a hybrid-learning environment is beneficial because public and private organizations have begun to use hybrid-learning environments for the last 5 years (SECAP, 2013; Escuela de Empresas, 2013). Consequently, the research problem is a need to understand how transfer design and opportunity to use learning, two factors measured by the LTSI, correlate with the test scores from a group of Ecuadorian adult learners who completed corporate training in a hybrid-learning environment.

Purpose of the Study

The purpose of this study was to explore the relationships between transfer design and opportunity to use learning as measured by the LTSI, and the final exam scores from a group of Ecuadorian adult learners who received training in a hybrid-learning environment. To accomplish this, the LTSI was administered and two of its factors where analyzed and then correlated with the participants' final exam scores. It was expected that after conducting the LTSI in an Ecuadorian context, employers could enhance transfer in both public and private organizations by considering several factors that promote training transfer.

Research Hypotheses

The research hypotheses for this study were:

$H_1$1: There is a positive correlation between transfer design as determined by the LTSI, and trainees' test scores among a group of adult learners who received corporate training in a hybrid-learning environment in Ecuador.

$H_0$1: There is no correlation between transfer design as determined by the LTSI, and trainees' test scores among a group of adult learners who received corporate training in a hybrid-learning environment in Ecuador.

$H_1$2: There is a positive correlation between opportunity to use learning as determined by the LTSI, and trainees' test scores among a group of adult learners who received corporate training in a hybrid-learning environment in Ecuador.

$H_0$2: There is no correlation between opportunity to use learning as determined by the LTSI, and trainees' test scores among a group of adult learners who received corporate training in a hybrid-learning environment in Ecuador.

Rationale, Relevance, and Significance

This section presents the rationale, relevance, and significance of this study. The rationale justifies the need for this study while the relevance explains the importance of this study for the Professional Studies specialization. The significance section explains how this study serves to begin to close the gap in knowledge relating training transfer in a hybrid-learning environment in Ecuador.

Rationale

Corporate training organizations in Ecuador are beginning to use hybrid-learning environments in addition to traditional face-to-face settings. By using a

validated instrument such as the LTSI, organizations providing adult education programs in Ecuador and Latin America could benefit from analyzing how learning is transferred in the workplace. Although the LTSI had never been implemented in Ecuador or any other Latin American country before this study, it has been validated in Ukraine (Yamkovenko, Holton, & Bates, 2007), Germany (Bates, Kauffeld, &, Holton, 2007), Portugal (Velada, Caetano, Michel, Lyons, & Kavanagh, 2007), France (Devos, Dumay, Bonami, Bates, & Holton, 2007), Jordan (Khasawneh, Bates, & Holton, 2006), and Taiwan (Chen, Holton, & Bates, 2005).

As Samaniego (2012) noted, other Latin American governments such as Uruguay and Argentina have started to promote online learning and access to technology among various groups within their populations. In Ecuador, there are public programs where educators use technology to deliver education (Peñaherrera 2012). However, corporate training organizations in Ecuador are just beginning to consider the use of online- and hybrid-learning environments (Escuela de Empresas, 2013), which makes this an opportune time to understand whether and how a hybrid-learning environment affects corporate training transfer in Ecuador.

Relevance

Corporate training is performed around the globe, and practitioners could benefit from understanding how training transfer can be promoted in Ecuador. Corporate training has become an essential component of organizations worldwide (Gerbman, 2000). Employers are interested in hiring employees who are willing to continue to learn in the workplace (Gerbman, 2000). Tek Aik and Tway (2006) suggested that employees will be more motivated to learn when the learning is related

to tasks performed in the workplace, making the design of training programs critical for objectives related to continuous program improvement.

Significance

This study contributes to the research on training transfer and learning environments in a Latin American context. The LTSI had not been previously used in any Latin American country (R. Bates, personal communication, August 20, 2013), making this study an important contributor to the understanding of training transfer and learning environments in Ecuador in several ways. Using an instrument like the LTSI in additional countries provides insight for adult educators interested in promoting training transfer in various cultural contexts. Trainers must consider their learners' culture in order to promote training transfer in the most appropriate manner (Breward, Breward & Higgins, 2011). This means that if foreign trainers teach within an Ecuadorian context, the results of this study could help them select the most appropriate strategies to promote training transfer.

The application of a validated instrument such as the LTSI could be useful for managers interested in finding out how transfer is promoted in a Latin American context. Managers could use the information from the 16 factors measured by the LTSI to apply concrete strategies to promote training transfer. T. Baldwin and Ford (1988) analyzed the topic of training transfer and concluded that it is essential to align learning content and job relevance to promote transfer in the workplace.

This study could motivate other researchers to further investigate the topic of training transfer in different Latin American countries in order to understand how managers could encourage employees to transfer what was learned in a hybrid-learning

environment. As Wong and Huang (2011) pointed out, e-learning is reducing the need for costly face-to-face sessions. Therefore, practitioners interested in improving their adult education initiatives could benefit from understanding the results of the LTSI from a group of adult learners that receiving training in an environment that combined both face-to-face and online learning.

Manju and Suresh (2011) maintained that industries require talented employees in order to increase productivity. This implies that regular training of employees will be beneficial. Employers in Ecuadorian organizations could thus benefit from understanding how the LTSI could provide useful information to plan more adequate training, to become more productive, and to provide additional support for their employees. Also, employees receiving training could better understand the requirements they need to transfer training in their daily jobs. If the 16 factors that the LTSI measures are analyzed, then corporate training organizations and adult educators in general can plan their training more carefully in order to maximize training transfer.

Nature of the Study

This non-experimental correlational study provided an analysis of data on several variables: the relationship between transfer design, the opportunity to use learning, and test scores in a group of Ecuadorian adult learners who received training in a hybrid-learning environment. The purpose of correlational research design is to describe the relationship between variables after a survey has been administered to a single group of participants (Black, 2002; Spector, 1981; Fraenkel, Wallen & Hyun, 2012). Correlations are used to establish the "strength of relations between variables in a simple sample of subjects" (Black, 2002, p. 159). That is why this study used the Spearman rank order

correlation coefficient (Spearman´s rho) to determine the strength of the relationship between transfer design, opportunity to use learning, and the participants' test scores on their final exam after receiving training in a hybrid-learning environment (Leedy & Ormrod, 2013).

In this study the LTSI was administered to a group of 30 Ecuadorian adult learners who received sales training specific to the automotive industry for 3 months in a hybrid-learning environment. The LTSI measures the following factors: learner readiness, performance self-efficacy, motivation to transfer learning, transfer effort-performance expectations, performance-outcomes expectations, performance coaching, supervisor support, supervisor opposition, peer support, resistance to change, personal outcomes-positive, personal outcomes-negative, opportunity to use learning, personal capacity for transfer, perceived content validity, and transfer design (Holton & Bates, 2011).

Definition of Terms

Andragogy

Andragogy consists of a set of principles about adult learning (Knowles, Holton & Swanson, 2005). In this study the andragogy principles that were considered included: learner-focused learning, active learning, self-directedness, self-efficacy, learning control, opportunity to use learning, emphasis on experiences, and connecting prior and new learning. These principles were used to understand the 3 theories that guided this study: experiential learning theory, transformative learning theory, and metacognition theory.

Corporate Training

Corporate training refers to any specific educational program that employees receive based on their learning needs (Combs & Falleta, 2000). There are two primary models of corporate training delivery. In the first, organizations provide required training to their employees and in some cases develop a corporate university with the assistance of an educational institution. The second model involves hiring an educational organization that provides the required training (Sitnikov, Kruk, Zhuravleva & Chupakhina, 2010). For the purpose of this study, corporate training refers to training delivered by an educational institution with the main objective of transferring what has been learned back to the workplace.

Correlational Research Design

Correlational research design is used to determine the relationship between two or more variables by using the corresponding statistical procedure (Creswell, 2012).

E-Learning

E-learning is a form of instruction that is delivered on a digital device and it could be synchronous (participants and instructor connected and interacting in real time) or asynchronous (participants and instructor not connected or interacting in real time) (Miller, 2012). E-learning includes "web-based learning, computer-based learning, virtual classrooms, and digital collaboration" (Russo, 2011, p. 7). The definition that was adopted relates to corporate training and it defines e-learning as the use of any type of technological tool to deliver training applications in order to monitor trainees' performance and progress (Miller, 2012; Van Tiem, Moseley, Dessinger, 2012).

Experiential Learning Theory

Experiential learning theory is the process through which adults construct new knowledge by questioning previous paradigms and by interacting with the environment (Kolb & Kolb, 2005).

Forward-Backward Translation

The forward-backward translation methodology used in this study entailed that two independent translators translated the original English version of the LTSI into Spanish. A unified version was created and two additional translators had to translate the Spanish version back to English. The original authors of the LTSI validated the last translated version that was used in this study.

Hybrid-Learning

Hybrid-learning combines both face-to-face delivery and some form of e-learning (Sitzmann, Kraiger, Stewart & Wisher, 2006; Simonson, Smaldino, Albright & Zvacek, 2012). According to Doering and Veletsianos (2008), hybrid learning combines face-to-face and online learning to create an especially dynamic interaction between learners and instructors. Meyer (2008) suggested that employers include hybrid or blended delivery in corporate training to reduce the costs and time involved in face-to-face learning.

Learning Transfer System Inventory (LTSI)

The LTSI is a validated instrument used to measure 16 factors that influence training transfer. The questionnaire consists of 48 questions that are measured using a Likert Scale *(*Holton & Bates, 2011).

Likert Scale

A Likert scale is a "linear scale used in data collection to rate statements and attitudes" (Russo, 2011, p. 14). In this study, the LTSI uses a Likert Scale of: 1-*Strongly disagree*, 2-*Disagree*, 3-*Neither agree nor disagree*, 4-*Agree*, 5-*Strongly agree* to measure each one of the 48 questions.

Metacognition

Metacognition is "people's awareness and understandings of their own thinking and learning processes, as well as their regulation of those processes to enhance their learning and memory are collectively known as metacognition." (Ormrod, 2012, p. 353).

Opportunity to Use Learning

Opportunity to use learning is one of the independent variables of this study. Authors of the LTSI developed the following definition of opportunity to use learning: "the extent to which trainees are provided with or obtain resources and tasks on the job enabling them to use the skills taught in training" (Holton & Bates, 2011, p. 5).

Spearman's Rho

The Spearman's rho is a correlation coefficient used in correlational research design to measure the degree of association between rank-ordered data (Leedy & Ormrod, 2013). This correlation coefficient can be used when both variables are ordinal or when one is interval and the other ordinal (Walliman, 2006).

Test Scores

In this study, the variable test scores were used as the dependent variable. Test scores in this case is a number from 0 to 100 that represents the participants' scores in the final exam after receiving sales training in a hybrid-learning environment for 3 months.

Transfer

Transfer is “the application of previously learned knowledge and skills to new situations encountered after the learning event” (Clark & Mayer, 2008, p. 473).

Training Transfer

Training transfer refers to applying new learning previously received in the workplace (Russo, 2011).

Transfer Design

Transfer design is one of the independent variables of this study. As stated in the LTSI *Administrator's Guide*, transfer design is "the extent to which training has been designed to give trainees the ability to transfer learning to job application" (Holton & Bates, 2011, p. 6).

Transformative Learning Theory

Transformative learning theory refers to the process of experiencing a disorienting dilemma that after careful reflection allows the individual to take a particular course of action (Cranton, 2006).

Assumptions, Limitations, and Delimitations

This section presents the assumptions, limitations, and delimitations of this study. The assumptions were made in regards to how the participants of this study responded to the questions posited in the LTSI, the sample calculation, sample size, the translation methodology, and issues regarding conflict of interests. The limitations section reflects potential weaknesses in the study in terms of the sample size, generalization of results, and lack of gathering employers’ perspectives on training transfer. The delimitations

section explains the scope of the study in regards to industry sector and learning environment.

Assumptions

The following assumptions were made in this study:

1. The participants responded honestly to the LTSI questions. The sample calculation method using finite small samples was adequate to conduct a correlational study.
2. The simple size of 30 was adequate to perform a correlational study.
3. The forward-backward translation methodology used to translate the LTSI was the most appropriate method to translate the original English version into Spanish.
4. Participants did not feel distressed by the questions posed in the LTSI.
5. The participants did not feel obligated to participate in the study because the researcher works at the corporate training organization where they received training.

Limitations

This study contained the following limitations:

1. The selected sample of adult learners that received corporate training in sales in a hybrid-learning environment does not represent the entire population of adult learners in Ecuador or Latin America.
2. This study focused on two factors determined by the LTSI and did not consider the other 14 factors measured by this instrument.
3. The employers' perspectives on training transfer were not considered in this study and only the trainees' answers to the LTSI were considered.

Delimitations

This study contained the following delimitations:

1. The scope of this study was to apply the LTSI to a group of trainees working at a private corporation and other industries or public environments were not considered.
2. The scope of this study was to analyze the responses to the LTSI from a group of participants that received training in a hybrid-learning environment and excluded different learning environments where trainees could receive corporate training.

Organization of the Remainder of the Study

Chapter 2 will present the theoretical framework of this study and the literature review with respect to training transfer, training design, opportunity to use learning, e-learning, hybrid learning, and Ecuador's situation. Chapter 3 will describe how the research methodology addresses the research problem and research hypotheses. Chapter 4 will present the results of data collection and analysis. Finally, Chapter 5 will discuss the findings, conclusions, and implications for practice, provide an analysis of relationships found between the study's results and the literature review, and offer recommendations for future research and practice.

CHAPTER 2. LITERATURE REVIEW

Introduction to the Literature Review

The purpose of this study was to analyze correlations between transfer design, opportunity to use learning, and test scores for a group of Ecuadorian adult learners that received corporate training in a hybrid-learning environment. This chapter reviews the literature on experiential learning theory, transformative learning theory, metacognition theory, and how training transfer has been approached from a corporate training perspective in hybrid-learning environments. The chapter examines e-learning and hybrid learning and their applications to corporate training. Principles from andragogy provided a framework for understanding how adult learners approach new learning experiences and how these experiences are transferred back to organizations.

Training transfer is analyzed in relation to how it is measured and how organizations value the fact that training transcends the classroom. Research on training transfer is discussed throughout this chapter in order to analyze: work environment, supervisor support, social network, motivation, strategic planning, types of organizations, transfer design, opportunity to use learning, and how learning environment influence training transfer. The chapter includes a discussion of Ecuador´s situation with respect to training transfer, e-learning, and hybrid learning.

This literature review was performed after accessing the Capella Library and several databases, such as Eric, Education Research Complete, Proquest Education Journals, Ebrary, and Sage. The search terms utilized included: metacognition, experiential learning, transformative learning, andragogy, training transfer, training design, opportunity to use learning, corporate training, e-learning, and hybrid learning.

Theoretical Framework

This study was guided by adult learning theories and andragogy principles, specifically experiential learning theory, transformative learning theory, and metacognition theory. These theories provided a foundation for understanding how adults learn and transfer of training was analyzed from the perspective of adult learning theories. Macaulay (2000) summarized the importance of including learners' experiences in the learning process by explaining the following:

> Adult educators emphasize the importance of personalizing education by integrating the experience of learners with what they are learning. This ensures that learning is both relevant and authentic and that it does not become spurious intellectualization. In this sense the experience of the learner is not seen merely as something to take account of-it is crucial to the learning process. (p. 6)

Experiential Learning Theory

Experiential learning theory can be applied in corporate training because adult learners are aware of their learning processes and can be exposed to concrete experiences that enable them to question previous mental schemes. The theory of experiential learning that Kolb (1984) developed focuses on the learning process and how learners view the way they think and learn and how they construct new ideas while disregarding

past paradigms. Experiential learning means that learners have a concrete experience that allows them to reflect upon past mental paradigms; they then construct new abstract ideas and after reflection and an experimentation process, they learn (Kolb, 1984).

Kolb and Kolb (2005) suggested that interacting with the environment is a key component of the learning process, and that this interaction allows learners to construct their own learning. The adult learners that participated in this study were exposed to different sales scenarios that allowed them to assume different roles and question previous mental schemes to construct new perspectives about the sell process.

Informal learning is related to corporate training and experiential learning. As Enos, Kehrhahn, and Bell (2003) suggested, informal learning that occurs within an organization is where employees learn the most because they can enhance their metacognitive skills while practicing new knowledge in the workplace. This is similar to experiential learning, which purports that an individual will learn after having a concrete experience, reflecting upon it, and changing a previous perspective (Kolb, 1984).

Transformative Learning Theory

Adult educators working in corporate training can use principles of transformative learning to plan training that challenges adult learners to question previously held views. Mezirow (1997) developed transformative learning in an attempt to explain how adults learn. He proposed that adults possess prior knowledge that constantly influences future learning (Mezirow, 1997). After living a concrete experience, adults begin to question past knowledge in order to construct new concepts (Mezirow, 1997). When adults experience traumatic life events, they begin to question past paradigms and after a

reflection and discussion process, they embrace new concepts and perspectives that were not previously considered (Mezirow, 1997).

Principles of Andragogy

Adult learners and educators could consider the principles of andragogy in order to understand how new learning can be transferred into a professional context. Malcolm Knowles emphasized the importance of recognizing differences in the way adults and children learn. The principles of andragogy were developed to help adult educators comprehend how adults learn (Knowles, Holton & Swanson, 2005). Knowles et al. (2005) explained that (a) adults are the center of their education process, (b) adults need to know why they are engaged in a particular learning event, (c) adult learners need to plan their own learning, (d) adult learners must participate actively in the instructional design process, (e) adults are self-directed in their learning process (f) adults need to be in control of their learning, (g) adults must understand why learning is important to them, and (h) adult learners should have opportunities to share their personal and professional experiences while acquiring concrete knowledge or skills that can be immediately applied. By considering the principles of andragogy, both adult educators and learners can promote training transfer.

Metacognitive Theory

Metacognition refers to the act of thinking about how one thinks or performs a certain skill (Schraw, 1998). If learners are aware of this process, then specific instructional strategies can be implemented to help adults who are unable to perform certain skills in the workplace (Schraw, 1998). In corporate training, adult educators could plan activities according to learners' differing levels of awareness about their

metacognition, thereby facilitating training transfer. For instance, different types of job aids could be developed to promote employees' different levels of awareness in order for them to achieve their daily tasks.

Metacognition, according to Halpern (1998), “refers to the self-awareness and planning functions that guide the use of thinking skills” (p. 454). When adults are engaged in learning, instructors must carefully consider the trainees' mental models in order to include concrete activities that will challenge trainees' previous conceptions about the world. This will help adults understand their own metacognition processes (Halpern, 1998).

In order to comprehend the concept of metacognition, the process of regulating cognition will be described. As Schraw (1998) stated, “regulation of cognition refers to a set of activities that helps students control their learning” (p. 114). The process that Schraw described includes planning, monitoring, and evaluating as essential components of how learners can regulate their cognition. When learners plan their own learning, they have already analyzed their metacognition process and are able to select concrete strategies in order to maximize their learning endeavor. Monitoring learning involves continuous verification of what is being learned so that any required modifications in the learning plan may be identified. Evaluating refers to analyzing learning objectives and their completion. This is done to determine the outcomes and identify aspects that need to be addressed to improve the learning experience in the future. The importance of metacognition is that it can be used to help learners understand and regulate cognitive skills (Schraw, 1998).

Metacognition theories. In order to promote training transfer, adult learners should have opportunities to become aware of their learning processes (Kenner & Weinerman, 2011). Adults' learning processes can be understood by analyzing Schraw and Moshman (1995) three types of metacognitive theories. Tacit metacognitive theories are constructed from personal, professional, and cultural influences that determine the way adults construct their knowledge. From this perspective, individuals are not consciously aware of the way they think; however, they hold firm beliefs and opinions. Tacit theories imply that adults tend to learn in a manner consistent with the way they were taught when they were children and from influences they have received throughout their lives (Kenner & Weinerman, 2011).

Informal metacognitive theories suggest that as individuals begin to become aware of how they construct knowledge, they start to analyze their own perspectives, question their assumptions, and are able to modify their behaviors and change their frames of reference (Schraw & Moshman, 1995). An example includes a study by Rivers (2001) where he concluded that adult learners who were learning a new language and reflected upon their own learning processes were more motivated to learn than adults who were not aware of the way they were learning.

Formal metacognitive theories are the most advanced level since individuals are able to examine scientific evidence and make judgments based on objective information (Schraw & Moshman, 1995). Metacognition theory is related to long-term and working memory and the way individuals retrieve the information they need during a particular learning process (Kirschner, Sweller & Clark, 2006).

Educators working with adults in corporate training must be aware of participants' educational backgrounds and previous experiences in order to select appropriate strategies that take into account the adults' metacognition awareness (Kenner & Weinerman, 2011). This means that if adults have been accustomed to memorizing information to learn a new procedure, then the facilitator can challenge this previous strategy by allowing the learner to question the information being memorized by using critical thinking skills (Kenner & Weinerman, 2011).

When analyzing training transfer, an educator must decide how to approach instruction depending on the trainees' level of prior knowledge, metacognitive awareness, and andragogy principles previously described (Kirschner, Sweller & Clark, 2006; Knowles et al., 2005).

Implications for training transfer. Adult learners who are able to recognize and regulate their cognition processes have increased capacity to know when they are actually learning (Schraw & Moshman, 1995). Consequently, trainers working in corporate training can use metacognition theories and processes to promote training transfer in the workplace. In corporate training, adults learn in a particular way that either enhances or fails to enhance training transfer in the workplace. For instance, the LTSI includes a series of scales that measure key variables, such as performance self-efficacy, which refers to how adult learners view themselves in terms of applying new knowledge in their workplaces (Holton et al., 2000).

Training Transfer

Although training transfer has been defined in several ways, Orata (1928) provided a concrete definition that clarifies the term: "education then becomes training

for specific duties, and transfer consists in doing over again what was done before in other situations" (p.11). Orata proposed that in order for transfer to occur, the trainee must be able to develop new concepts after the original training in order to translate those concepts into a different setting. This means that when training is received, similar conditions must be present in the work environment in order for the trainee to be able to replicate what was previously learned. Orata expanded the definition by emphasizing the importance of being able to recycle former learning into new situations. This suggests that the trainee must be capable of modifying what has been learned in order to use it in a new environment and adapt it to a new situation.

Training transfer has been related to the principle of identical elements. This principle refers to how training and transfer conditions must be identical and resemble actual work environment conditions in order to promote the actual transfer into the workplace (Baldwin & Ford, 1988; Yamnill & McLean, 2001). In some cases, new learning is identical to the work environment, but in the majority of cases, learning resembles some aspect of job performance that the employee must generalize and transfer into the work environment (Yamnill & McLean, 2001).

Nevertheless, Armstrong and Fukami (2009) questioned the principle of identical elements in training transfer on the grounds that no two learning experiences are exactly the same; consequently, it is not possible to recreate an exact learning problem within the constraints of a classroom. That is why they proposed that adult learners must continue to learn and to understand why they are acquiring new knowledge or skills, and that only with adequate training design and the support of a trainer will learners eventually be able

to transfer new knowledge into the workplace (Armstrong & Fukami, 2009; Cromley, 2000).

Types of Transfer

There are 8 different types of transfer developed by Leberman, McDonald and Doyle (2006). Positive transfer refers to learning that enables new learning. For instance, learning how to use a word processor facilitates the process of learning how to write a business letter. By contrast, negative transfer refers to a negative learning experience that interferes with new learning. For example, if a learner had a negative experience with computers, this may influence the experience of learning how to use the Internet. Simple transfer refers to being able to apply new learning in an uncomplicated manner, while complex transfer means that a learner uses cognitive processes that are more elaborate than those previously learned. Near and far transfer refers to the length of time between new learning and the actual transfer of learning. Automatic transfer and mindful transfer pertain to the ability to immediately (or not) transfer new learning to a different context. For instance, giving a speech to a group of coworkers and then being able to present a conference to an academic audience is an example of automatic transfer.

Research on Training Transfer

There are various factors that influence training transfer. Kontoghiorghes (2001) surveyed employees who had been exposed to technological changes within their organizations and found that the factors that contributed to training transfer were (a) supervisor support to use the acquired knowledge and skills, (b) level of employee motivation within the organization, and (c) prompts within the work environment that reminded the employees to use the skills acquired during training. In addition to these

factors, social networks, strategic planning, and types of organizations will be discussed as they relate to training transfer.

Training Transfer and Work Environment

One factor that contributes to training transfer is a favorable job context or work environment. Research done by Alliger and Janak (1989) reveals that there is a high correlation between practical aspects of training that have concrete applications in the workplace and job performance. Employees who view training as practical have a greater tendency to apply what has been learned in training to the workplace. When analyzing the work environment, Burke and Hutchins (2007) suggested that transfer climate, supervisory support, peer support, and opportunity to perform had a strong or moderate relationship with training transfer. A study conducted by Rouiller and Goldstein (1993) emphasized the importance of having a supportive organizational climate in order for training transfer to occur. Another important conclusion from Rouiller and Goldstein is that trainees who learned more during training were able to transfer and perform better than trainees who did not learn as much during training.

Ford and Weissbein (1997) proposed that "for transfer to have occurred, learned behavior must be generalized to the job context and maintained over a period of time on the job" (p. 63). This means that employees must demonstrate that they are able to apply new knowledge or skills acquired during training into the workplace environment for a period of time.

Training Transfer and Supervisor Support

One of the earlier factors studied to enhance training transfer was allowing trainees the possibility of planning and discussing training objectives with their

supervisors (Huczynski & Lewis, 1980). When employers have favorable expectations about their employees and believe in training, it is more likely that employees will view training as positive and that new learning will reach the workplace (Quiñones, 1995; Huczynski & Lewis, 1980).

When supervisors believe in training, model the desired behavior, and provide opportunities for employees to apply their training, transfer is more likely to occur. (Baldwin & Ford, 1988). If employees perceive they are being treated fairly, they are more likely to transfer training into the workplace than if they feel their employers are treating them unfairly (Yamnill & McLean, 2001). Research has been conducted to determine the relationship between management support and training transfer (Brinkerhoff & Montesino, 1995). The main findings from this study reveal that if supervisors were able to communicate with their employees on how to use training in the workplace and were supportive of training objectives, training transfer occurred.

A study conducted in Turkey by Gumuseli and Ergin (2002) revealed that a group of trainees who received supervisory support demonstrated the use of knowledge and skills received during training more than the control group who did not receive supervisory support. As T. Baldwin and Holton (2003) asserted, managers are transfer agents, and managers have to be guided in order to promote transfer within the organization (Baldwin & Holton, 2003). To maximize training transfer, it is recommended that supervisors anticipate the possible transfer barriers they may encounter before developing a training program (Yelon & Ford, 1999). Therefore, managers should have an active role in training in order to promote transfer.

Even when employers support their employees after training, other factors such as workload and job demands can hinder the actual transfer of training (Tracey & Tews, 2005). As Tracey, Hinkin, Tannenbaum, and Mathieu (2001) suggested in a study conducted with supermarket general managers, if there is a positive training climate and supervisors consider training and education a priority, then the employees will exhibit behaviors that promote training transfer.

Training Transfer and Social Network

Social network theory has been utilized to analyze how social relations influence training transfer (Hatala & Fleming, 2007). The authors concluded that if supervisors, trainees, and peers were involved in the pre-training design phase, all of them would have a positive view about training and transfer was more likely to occur. Their study posited that it is essential to consider the social relations within an organization before designing training in order to maximize training transfer.

Networks of peers, trainers, family, and friends contribute to the employees' training transfer (Bossche, & Segers, 2013). This suggests that employees will have a greater tendency to apply what they have learned when they are supported by their peers and other support groups, such as friends and family. When trainees perceive that their peers support them, they report being better able to transfer training in their daily jobs (Cromwell & Kolb, 2004). Two strategies recommended to enhance peer support and promote transfer include "buddy systems", where colleagues support one another, and booster sessions where trainer and trainee meet to discuss progress (Baldwin & Ford, 1988).

Training Transfer and Motivation

Motivation is a key element that promotes training transfer (Noe & Schmitt, 1986). When employees are motivated, they will be more willing to transfer what they have learned back into the workplace. Knowledge and skills acquired during training are more likely to be utilized when individuals realize that by using the new knowledge or skill they can solve their work problems. Noe and Schmitt conducted a study among a group of school principals. They concluded that the principals that were motivated and satisfied with their skill assessment prior to training were better able to understand the connection between training and their daily jobs than the principals that were not motivated. The more involved the principals were with their current jobs before training, the more involved they were in a learning process that included changing past behaviors (Noe & Schmitt, 1986). A literature review conducted by Burke and Hutchins (2007) revealed that pre-training motivation has a strong or moderate relationships with training transfer.

Motivation has been related to workplace literacy skills as a factor to consider when determining employees' motivation to transfer training (Alvarez, Salas & Garofano, 2004; Bates & Holton, 2004). Research conducted by Bates and Holton (2004) to examine the relationship between workplace literacy skills and training transfer has shown that individuals who have lower workplace literacy skills (such as reading, writing, and mathematical) are motivated to receive training. In this case, training is considered a valuable tool that will enable employees to perform better in their jobs (Bates & Holton, 2004).

Motivation has been associated with conscientiousness. Yamkovenko and Holton (2010) defined conscientiousness as a trait of motivated and tenacious individuals who fulfill their goals and concluded in their research that individuals who possess this trait are more likely to transfer training. When employees perceive training as important and are motivated, it is probable they will try to implement it at their workplaces.

Training Transfer and Strategic Planning

Being able to connect training with the strategic plan of the organization is another factor that contributes to employee training transfer (Montesino, 2002). In other words, when employees view training as aligned with their organizations' mission, vision, and objectives, they will be more willing to transfer training into their workplaces than they would if they did not find training relevant to their organizations' strategic plans (Montesino, 2002). When employees have established meaningful and concrete goals aligned with the organizations' strategic planning, then transfer is more prone to happen (Montesino, 2002; Yamnill & McLean, 2001).

Training Transfer and Types of Organizations

Transfer varies across organizational types. Public, private, and nonprofit organizations present differences in training transfer (Holton, Chen, & Naquin, 2003). Holton et al (2003) found that employees of a nonprofit were more motivated to transfer what they learned, while employees working at private organizations had more opportunities to apply their learning.

In conclusion, training transfer is "the ultimate aim of teaching and learning" (Leberman, McDonald & Doyle, 2006, p. 3). That is why training transfer must be viewed from a systematic approach that not only involves training but the learner, the

work climate, opportunities to use training, and ultimately employees' performance (Baldwin & Holton, 2003).

Transfer Design and Training Transfer

As stated in the LTSI, transfer design refers to how a training program includes activities that simulate on-the-job tasks (Holton et al., 2007). That is why transfer design will vary depending on learning objectives, organization, and the cultural context in which training is designed (Holton, 1996). Training must be designed after taking into consideration performance gaps that need to be resolved (Baldwin & Holton, 2003).

Two essential conditions must be met in the design phase in order for training transfer to occur. The content has to be applicable and related to the trainees' job and trainees must be motivated to apply the new learning (Holton & Baldwin, 2003; Leberman et al., 2006). Trainees' personal or professional interests play a crucial role in training transfer (Orata, 1928). This means that trainees must be involved in the training design and their needs must be considered in order for training to be successfully transferred back into the organization. For instance, if trainees understand that using a new database will allow them to organize their clients' information more efficiently than an Excel worksheet can, and if trainers carefully designed the training session to engage learners in the change process, then trainees will be more likely to learn and to transfer the new knowledge into the workplace than if the above two conditions had not been met.

Design factors that have a strong or moderate relationship with training transfer include learning goals, content relevance, practice, and feedback (Burke & Hutchins, 2007). This means that when planning for training it is essential to carefully design learning goals and create relevant training content in order to assure a higher transfer rate.

Pre-training involvement, where trainees provided input about the training, was positively associated with training transfer (Saks & Belcourt, 2006). Goldstein's (1980) thorough literature review revealed that a needs assessment must be conducted prior to designing training in order to promote training transfer. The instructional designer must collaborate with the trainers to perform a needs assessment that will serve as the foundation for the training design and that will engage and motivate trainees to apply new learning in their workplaces (Seyler et al., 1998). Researchers who analyzed a group of military trainees concluded that if the trainees' specific needs and aspirations were considered during the needs analysis phase, training transfer was higher (Tannenbaum, Mathieu, Salas & Cannon-Bowers, 1991). When trainees are active in the needs assessment phase, the more committed they will be with their workplace and the more probable that they will transfer new learning to their daily jobs (Tannenbaum et al., 1991).

Cheng and Hampson (2008) recommended that trainees be given the opportunity to select what they will transfer to their jobs during the design phase. When learning has been designed with clear specifications of how it will be used in the workplace, it will be easier for trainees to apply what has been learned (Yamnill & McLean, 2001). As stated by Naquim and Baldwin (2003), learners who feel in control of their learning have a greater tendency to apply new knowledge in their jobs and perform better than learners who do not take part in the planning stage. That is why it is essential to analyze the transfer intention in trainees in order to predict training transfer in the workplace. Self-efficacy—the way individuals envision the task and their perceived capacity of fulfilling it—is a key element that determines the trainees' intention to transfer learning (Cheng &

Hampson, 2008). This means that a trainee must have confidence that a certain task is attainable and must have control over external factors in order to successfully accomplish a task that requires application of knowledge acquired through training.

Trainees that are able to participate in the training design phase are more willing to transfer learning back to their organization. T. Baldwin and Magjuka (1991) asked employees before and after a training session about their motivation to learn and to apply learning in the workplace. Results from this research indicated that employees had a greater tendency to transfer training when they received information about the training before it began, when they were held accountable for the training to be attended, and when the training was mandatory. In other words, trainees who participate in training design, trainees who are required to report back on the training, and trainees who perceive that training is mandatory will tend to apply what has been learned in their jobs to a greater extent than trainees who did not participate in the process, who are not held accountable, and who perceived training as voluntary.

A study conducted in Portugal determined that transfer design is one of the main factors that influences trainees to transfer what they have learned into the workplace (Velada, Caetano, Michel, Lyons & Kavanagh, 2007). The factors that must be considered in training design are instructional techniques in the learning environment and learning objectives (Velada et al., 2007). This means that trainers must carefully establish learning objectives and select learning strategies aligned with those objectives.

The transfer design phase must include trainees' personal characteristics and particular training needs. According to Awoniyi, Griego, and Morgan (2002) “individuals are more effective, more satisfied, and more committed to their jobs when their personal

attributes match, align, or are congruent with the attributes of their situational environment" (p. 26). This means that the more employees identify with the work environment, the greater the tendency to transfer training.

Opportunity to Use Learning and Training Transfer

Opportunity to use learning has been defined as the specific tasks or resources that the trainees are able to use in order to practice what was learned during training (Holton & Bates, 2011). This means that in order for transfer to occur, employees must be given concrete tasks where new training can be applied.

As Lim and Wentling (1998) proposed, one of the main factors that promotes training transfer is the opportunity to use new training in the workplace. A social service agency in the United Kingdom found that supervisory support and opportunity to use learning were the two factors that enhanced training transfer the most (Clarke, 2002). Seyler, Holton, Bates, Burnett and Carvalho (1998) suggested that environmental factors such as "opportunity to use, peer support, supervisor sanctions, and supervisor support" (p. 11) were the key elements that motivated adult learners to transfer what they learned in the workplace.

When designing training, work conditions and opportunity to use the new training must be considered. Yamnill and McLean (2001) suggested, "cognitive learning may well occur, but program participants may not have an opportunity to practice the training in a job context or may not be taught how to apply their knowledge on the job" (p. 200). This entails that employees must have concrete opportunities to use what was learned during training in order to be able to measure training transfer.

Training Transfer in Ecuador

There are various initiatives that the Ecuadorian government and private organizations have taken to promote training transfer. The public sector promotes agricultural projects that use training as a means to provide technical and business training that can be used in concrete projects within rural communities (International Cooperation and Development Fund, 2013). The public sector has two departments that provide access to training, but they do not measure the transfer that this training has on the trainees' workplace (SECAP, n.d.). The economically active population in Ecuador is approximately 6.8 million out of 14.5 million Ecuadorians (SIISE, n.d.). This means that approximately 46% of the population could receive training and transfer it back into the workplace.

At the same time, private enterprise continuously offers training programs to their employees. Escuela de Empresas, the corporate training division of Universidad San Francisco de Quito, Ecuador, offers training programs to various private businesses in Ecuador (Escuela de Empresas, 2013). The programs offered by this organization incorporate learning strategies such as applicable projects that learners can transfer back to their organizations (Escuela de Empresas, 2013). Nevertheless, organizations in Ecuador are not using a specific instrument, like the LTSI, to measure training transfer.

Learning Transfer System Inventory

The LTSI was developed to measure training transfer. This questionnaire is a diagnostic tool that can aid organizations (a) make changes prior to creating a training program, (b) evaluate training, (c) analyze transfer issues within an organization, (d) promote transfer by identifying key elements, and (e) develop a needs assessment that

can be useful for both employees and employers in order to promote transfer (Holton, et al., 2007).

The instrument was created from an evaluation model that Holton (2005) developed. This model considered the importance of analyzing training transfer from a systems approach where individual, organizational, and learning aspects are taken into account (Holton, 2005). The authors of this instrument started to develop this questionnaire in order to determine the ideal characteristics of a transfer climate within an organization. Initial variables that this instrument measured were peer support, supervisor support, opportunity to use learning, personal outcomes, and resistance (Holton & Bates, 1997). Later, the authors added transfer design factors that influence training transfer (Holton & Bates, 1997).

LTSI Measurement Factors

The LTSI measures items from four categories (Holton & Bates, 2011). The first category relates to trainee characteristics and includes learner readiness and performance self-efficacy. The second category relates to motivation and is comprised of motivation to transfer learning, transfer effort-performance expectations, and performance-outcomes expectations. The third category measures work environment and includes the following factors: performance coaching, supervisor/manager support, supervisor/manager opposition, peer support, resistance to change, personal outcomes-positive, and personal outcomes-negative. The fourth category is ability scales and includes opportunity to use learning, personal capacity for transfer, perceived content validity, and transfer design. The LTSI has been applied immediately after training or up to 60 days after training has been delivered (Holton, 2003). Participants take no more than twenty minutes to answer

the questionnaire. In total, the LTSI measures 16 factors in the four categories previously described. In this study, two factors from the ability scales were used: opportunity to use learning and transfer design.

LTSI International Validity and Translation Methodology

The LTSI has been used in various countries and has been translated into different languages. The instrument was translated, using a forward-backward translation technique, into Ukrainian in order to validate this instrument in Ukraine and analyze any cultural differences that could interfere with the possibility of administering this questionnaire in that country. The LTSI was validated in Ukrainian after 430 participants from various types of organizations responded to the questionnaire (Yamkovenko, Holton & Bates, 2007).

The forward-backward translation technique used in Ukraine entailed that the instrument was translated by two translators from its original language, English, into Ukrainian. Then, these two translators created a unified version that was translated from Ukrainian back to English by two different translators. Finally, the last translators developed a unified English version that was reviewed by the LTSI authors before it was implemented (Yamkovenko, et al., 2007). The originators of this translation methodology suggested that when translating instruments from an original language to another, cultural factors must be considered; the forward-backward mechanism allows for that consideration (Sperber, Devellis & Boehlecke, 1994).

Other European countries have used the LTSI as an instrument to measure training transfer. Research was conducted in Germany in order to translate and validate the LTSI there. Results show that the instrument is valid, though minor modifications to

the original version had to be made (Bates, Kauffeld & Holton, 2007). Even though the original version of the LTSI was developed in the United States, it has been shown that after a thorough translation and validation process this instrument can also be used in other countries where English is not the dominant language. The LTSI was also validated in Portugal and France by translating it into Portuguese and French using a forward-backward methodology (Velada, Caetano, Bates, Holton, 2009; Devos, Dumay, Bonami, Bates & Holton, 2007).

In addition to European countries, the LTSI has also been validated and translated into Arabic (Khasawneh, Bates & Holton, 2006). One of the main findings, in a study conducted in Jordan, revealed that even though employees had a motivating transfer climate within their organizations, they encountered resistance to implementing change when they tried to transfer training into the workplace (Khasawneh et al., 2006). Another study, conducted in a public organization in Jordan, discovered that coaching, supervisory support, and peer support enabled training transfer in this particular Jordanian organization (Yaghi, Goodman, Holton & Bates, 2008).

The LTSI has also been validated in Taiwan, where more than 500 employees completed the questionnaire, after implementation of a forward-backward translation methodology to translate the instrument from English to Mandarin (Chen, Holton & Bates, 2005). An important cultural factor to consider in Taiwan is that the preferred mode of training is lecture, which contrasts with the more learner-focused methodology used in the United States (Chen, Holton & Bates, 2005). Also, Taiwan focuses less on the individual and more on the collective, which leads to employees constantly seeking employer support and approval as revealed by the LTSI (Chen, Holton, Bates, 2006).

Similar results were obtained in a study conducted in Thailand to validate the LTSI. Yamnill and McLean (2005) conducted research in Thailand and discovered differences within organizational types. Employees working at a government organization needed to have constant approval from their employers in order to embrace change. However, employees working at private businesses were more focused on employee performance and embraced change more openly because they knew it could be beneficial to their overall performance. According to this study, the most important factor that influences training transfer is the perception that trainees have about training content. This led the authors of this study to conclude that trainees must be involved in the training design phase in order to promote training transfer. This means that trainees must actively participate in the instructional design phase by suggesting learning objectives and activities. Instructional designers must carefully analyze trainees' previous knowledge, skills, and attitudes in order to design effective training that will be transferred back into the workplace (Yamnill & McLean, 2005).

E-Learning

The American Association for Training and Development defines online learning as the use of any type of technological tool to deliver training (Miller, 2012). Approximately 37% of the training employees receive in the United States utilized some form of technology as a delivery method (Miller, 2012). Organizations are continuously seeking to reduce costs involved in travel and time due to training; e- learning is an option that reduces such costs (Clark & Mayer, 2011).

E-learning has also been described "as instruction delivered on a digital device such as a computer or mobile device that is intended to support learning" (Clark &

Mayer, 2011, p. 8). Educators engaged in e-learning typically use a learning management system to deliver content and organize activities. A learning management system could use social network tools such as blogs, wikis, Twitter, or Facebook to develop learning communities (Antoni, García & Orpinell, 2010).

There are three general categories of e-learning proposed by Clark and Mayer (2011). Receptive e-learning is used for information purposes and it involves low interaction. Directive e-learning allows participants to learn about specific processes and requires moderate interaction between the instructor and participants. Guided discovery provides learners the opportunity to construct their own knowledge by solving their problems in a highly interactive e-learning environment.

E-Learning Benefits

Online education offers several benefits such as (a) flexibility so learners can be trained anywhere and anytime, (b) improving cost-effectiveness since time and travel costs can be reduced, (c) allowing instructors to handle more students than in a regular face-to-face environment, (d) delivering synchronous classes with real time interactions, and (e) delivering asynchronous sessions where learners are required to complete various activities by certain deadlines while using a learning management system (Palloff & Pratt, 2007; U.S. Department of Education, 2010).

E-learning is recommended for employers seeking to be more cost-efficient, to reduce training time, and to train larger groups of employees, while employers whose main objective is to motivate employees need to use a face-to-face learning environment (Schmeeckle, 2003).

Corporate Training and E-Learning

E-learning is utilized in corporate training to help employees acquire knowledge and skills that can be immediately applied in the workplace (Clark & Mayer, 2011). The use of e-learning in organizations allows employees to become more efficient and to learn at a fast pace without waiting for traditional face-to-face training (Wong & Huang, 2011).

In order for trainees to feel motivated to use e-learning, the learning activities must be aligned with their workplace tasks (Wong & Huang, 2011). As stated by Manju and Suresh (2011), "trainees are more likely to transfer the training content to the work context when they perceive that the training program was designed and delivered in such a way that maximizes trainees' ability" (p. 54). This means that trainees must be involved in the training design from the beginning regardless of the learning environment that will be utilized. This can be achieved by creating focus groups with the participants so they can be involved in the training design process.

As Mueller and Strohmeier (2010) suggested, the instructional design process is key to successful e-learning; damage to learners as well as organizations may be the result of inadequate design. This means that the organization must carefully select the e-learning system that will be utilized and a careful instructional design process must follow to guarantee the success of the training program.

Employers view e-corporate training as a flexible and supportive learning environment for employees to acquire valuable training (Trierweiler & Rivera, 2005). Corporations are using more e-learning to train their employees because information can be made available when employees need it the most (Eddy & Tannenbaum, 2003). E-

learning is able to eliminate time, place, and budget constraints (Eddy & Tannenbaum, 2003).

An example of an organization that has embraced e-learning is Telefónica, the most important cell phone company in Spain and the second largest in Ecuador. They have implemented e-learning as part of their corporate training and reported that employees were able to access the training information anytime, anywhere and that the content was specifically tailored to their training needs (Gasco, Llopis & Reyes, 2004). However, this organization also reported some disadvantages, including a considerable investment in technology to implement e-learning, different levels of employee technical skills when using e-learning, distinct levels of self-motivation to engage in e-learning, and concerns from the corporation regarding intellectual property of e-learning content that was developed for their training program (Gasco et al., 2004).

E-Learning Research

E- learning is widely used by organizations that need to cut back on travel expenses and that require flexibility for employees to obtain training (Ju Joo,Yon Lim & Yeong Park, 2011). In their study, Ju Joo et al. (2011) concluded that trainees who felt supported by their supervisors and their peers were more engaged in an e-learning environment.

Research conducted in Australia revealed that the main barrier that adults have when faced with the option of e-learning is lack of time due to multiple responsibilities (McKay & Vilela, 2011). Also, adult learners have a greater tendency to report having difficulties when using technology in a learning environment

A survey conducted to 204 employees from various organizations such as AT& T, Deloitte, and Nestle, among others, concluded that 93% of survey participants enjoyed e-learning and would recommend it to a colleague (Baldwin, 2005). Managers can benefit from e-learning because they will not be required to attend face-to-face sessions that interfere with their schedules and they will have concrete opportunities to reflect about their practice when using an online learning environment (Baldwin, 2005).

E-learning has been used in a variety of fields. A group of Brazilian nurses utilized an e-learning program that proved to be successful by enabling learners to organize their time. It provided individualized training and utilized effective instructional methods to train a group of professionals unable to attend face-to-face training sessions (Padalino & Peres, 2007).

E-Learning and Game-Based Learning

Games provide a new way of using e-learning to train employees. Organizations that use game-based learning are looking for creative and entertaining ways to encourage employee learning (Squire, 2008). Games use distinct contexts where learners' emotions are used as a primary focus to enhance engagement. Games are examples of how experiential learning can be used in corporate training because learners' emotions and senses are used to allow learners to live a concrete experience.

E-Learning in Ecuador and Latin America

The Ecuadorian government understands that it is essential to equip schools with adequate technology in order for children to become familiar with technological tools (Ministerio de Educación, 2012). One of the government's main projects, schools of the millennium, builds schools that are equipped with technological resources that can be

used by the community as a whole. The purpose of building these schools is to allow children and the community to use technology as part of their education process. In other countries, such as Mexico, the government has begun to use online learning as a means to provide education to marginal groups (Vega, 2006).

Also, public programs in Ecuador have been designed to allow low-income individuals to have free access to the Internet as a means of reducing the technology gap among Ecuadorians (Conatel, 2010). This means that marginal groups have opportunities to use the Internet at no cost. In Brazil, the government promotes free access to computers and the Internet in order to provide useful information for its citizens (Global Information Society Watch, 2009). In Uruguay, an initiative to promote online learning and access to the Internet in educational settings provided every child and every teacher with a laptop (Global Information Society Watch, 2009).

Some corporations in Ecuador use e-learning as part of their continuous training process. They use their own tutorials and e-learning programs to train their employees in various topics (Telefónica, 2013). The Ecuadorian government has a special department that is in charge of providing training to eligible candidates. They offer both traditional face-to-face and e-learning courses that are accessible to all employees who apply and are free to some vulnerable groups. These courses offer technical information on various topics, such as agricultural procedures that can benefit employees working in rural areas of Ecuador (SECAP, 2013).

Hybrid-Learning

Hybrid or blended learning combines both face-to-face training and some form of e-learning (Sitzmann, Kraiger, Stewart & Wisher , 2006). The use of distinct learning

environments can be beneficial for learners as long as educators take into account learners' needs and prior knowledge during the design phase. A study that compared web-based and face-to-face training concluded that the instructional methods in both learning environments need to be consistent with learners' needs and prior knowledge in order to be effective (Sitzmann et al., 2006).

Hybrid-Learning Research

A meta-analysis of online and face-to-face learning conducted by the U.S. Department of Education (2010) concluded that blended learning has more advantages when compared with entirely online or face-to-face learning. This means that combining both online and face-to-face procedures allows learners to access the best from both learning environments.

A study that Amrein-Beardsley, Foulger and Toth (2007) conducted determined that students appreciated the use of hybrid-learning because they were able to organize their personal and professional obligations in a better way than when only attending face-to-face classes. Another advantage of using hybrid-learning environments is the possibility of using electronic databases and e-books that can be used through the learning management system, thereby reducing the costs of buying hard copy textbooks (Bai & Smith, 2010). An important distinction between using technology in education and in a hybrid-learning environment is that when using technology in education the learning environment remains the same, while in a hybrid-learning environment face-to-face sessions are reduced because online environments are also utilized (Caulfield, 2011).

Hybrid-Learning and Corporate Training

Corporations continuously seek more cost-effective ways to train employees. In the United States, more corporations are combining face-to-face training with online learning (Kyong-Jee, Bonk & Oh, 2008). Organizations such as Cisco utilize a hybrid model by using e-learning and then allowing trainees to have a face-to-face session to conclude the e-learning part of training (Kyong-Jee et al., 2008). There are several factors to consider before using a hybrid-learning model. First, it is important to decide which learning environment is more suitable taking into consideration whether human contact facilitates the achievement of the learning goals (Kyong-Jee et al., 2008). Second, it is valuable to analyze the cost involved in developing e-learning, taking note of whether the e-learning will be used in the future (Kyong-Jee et al., 2008). A survey that Kyong-Jee et al. (2008) conducted on corporations concluded that trainees receiving training in a hybrid-learning environment reported that the instructional material was more interactive and easier to understand compared to traditional face-to-face training.

Other benefits of using hybrid-learning models are relevant to individuals who are unable to travel to a face-to-face sessions and who usually work from home. Macpherson, Elliot, Harris and Homan (2004) suggested that it is important to consider that e-learning requires that learners be self-directed and motivated because learning occurs through the use of the computer, and even though interactive activities, such as discussion forums, are encouraged, the experience can be isolating for some. They also concluded that some trainees might be reluctant or hesitant to use technology as a means of receiving training; therefore, a corporation must carefully analyze the advantages and disadvantages of a hybrid-learning model before investing in one.

Hybrid-Learning in Corporate Training in Ecuador

Corporations in Ecuador have started to use hybrid-learning models to offer training to their employees. A private corporate training organization in Ecuador has already delivered three training programs in a hybrid-learning format (Escuela de Empresas, 2013). The organizations participating in this type of learning have analyzed different options and concluded that a hybrid-learning model considerably reduces costs while enabling participants to take control of their learning (Escuela de Empresas, 2013). There have been some technical difficulties that participants have encountered due to their lack of familiarity with the use of technology. In order to solve this issue, the private corporate training organization provides technical support and access to tutorials in order to minimize technical difficulties (Escuela de Empresas, 2013).

Chapter 2 Summary

Experiential learning, transformative learning, and metacognitive theories are applicable to corporate training and training transfer. By creating concrete learning experiences that allow learners to reflect on past paradigms, learning could be promoted in a corporate environment. If learners are aware of their metacognition processes, it will be easier for them to embrace learning. Adult educators could benefit from considering the theories previously mentioned when designing training that needs to be transferred into organizations. Corporations are using different learning environments and more hybrid-learning models are being utilized in order to provide flexibility when training employees.

Corporations face the challenge of providing meaningful training to their employees, training that is aligned with employees' daily work activities (Danielson & Wiggenhorn, 2003). As McLagan put it, "if learning isn´t a value embedded in the culture, its unlikely that a fancy course or intervention design will have much impact" (McLagan, 2003, p.49). Organizations need to prove that transfer is being performed to justify the expenses associated with training (Olsen & James, 1998). Ecuador´s corporate training programs have begun to use both e-learning and hybrid-learning models; nonetheless, concrete instruments like the LTSI have not yet been implemented as a tool to measure the real impact of training transfer within organizations. Training transfer must be analyzed before, during, and after training in order to reflect upon what promotes and what inhibits transfer within an organization (Leberman, McDonald & Doyle, 2006).

CHAPTER 3. METHODOLOGY

Introduction to Chapter 3

Chapter 3 presents the research hypotheses, research design, instrumentation, data collection procedures, expected findings, and ethical considerations of a non-experimental research study that correlated transfer design, opportunity to use learning, and the participant's test scores among a group of adult Ecuadorian learners that received corporate training in a hybrid-learning environment.

Purpose of the Study

The purpose of this study was to explore correlations between transfer design, opportunity to use learning, and trainees' test scores among a group of Ecuadorian adult learners who received training in a hybrid-learning environment. This study could help adult educators and employers working in corporate training understand whether and how a hybrid-learning environment is related to corporate training transfer in Ecuador.

Research Hypotheses

In order to explore the research problem of this study, the following alternative and its corresponding null hypotheses were formulated:

$H_1 1$: There is a positive correlation between transfer design as determined by the LTSI, and trainees' test scores among a group of adult learners who received corporate training in a hybrid-learning environment in Ecuador.

$H_0$1: There is no correlation between transfer design as determined by the LTSI, and trainees' test scores among a group of adult learners who received corporate training in a hybrid-learning environment in Ecuador.

$H_1$2: There is a positive correlation between opportunity to use learning as determined by the LTSI, and trainees' test scores among a group of adult learners who received corporate training in a hybrid-learning environment in Ecuador.

$H_0$2: There is no correlation between opportunity to use learning as determined by the LTSI, and trainees' test scores among a group of adult learners who received corporate training in a hybrid-learning environment in Ecuador.

Research Design

The correlational design selected for this study was a non-experimental research design that allowed the study of the phenomenon of training transfer and learning environment. The purpose of correlational research is to analyze relationships between variables by using correlational statistics (Gall, Gall & Borg, 2003; Lodico, Spaulding & Voegtle, 2010). Correlational research does not require a specific type of intervention from the researcher and data can be obtained by administering a survey to a single group (Scott & Morrison, 2005; Black, 2002).

One of the limitations of non-experimental research is that the researcher must carefully select the variables and the appropriate statistical test according to the research purpose and research questions (Thompson et al., 2005).

In this case, the correlation coefficient that was selected according to the research purpose and research problem was the Spearman rank-order correlation coefficient (Spearman´s rho). The Spearman´s rho was utilized to determine the correlation between

transfer design and opportunity to use learning as measured by the Learning Transfer System Inventory (LTSI), and the test scores of a group of Ecuadorian adult learners who received corporate training in a hybrid-learning environment. The Spearman´s rho is a special case of Pearson´s correlation coefficient and it is used when the two variables that are being correlated are ordinal or when one is ordinal and the other is interval or ratio (Walliman, 2006). The Spearman´s rho was selected because transfer design and opportunity to use learning (independent variables) were measured on an ordinal scale and test scores (independent variable) was measured on a ratio scale (Leedy & Ormrod, 2013).

When conducting correlational research it is essential to establish the difference between correlation and causation (McMillan & Schumacher, 1997). When a researcher finds a positive correlation between two variables, it does not mean that one variable causes the other variable (McMillan & Schumacher, 1997).

In this study the LTSI, a validated instrument that measures different factors related to training transfer, was used to gather responses from a group of adult learners in Ecuador about transfer design and opportunity to use learning. The adults were selected from a corporate training organization that delivers training to professional adults in Ecuador.

Target Population, Sampling Method, and Related Procedures

This section describes the target population, sampling and recruitment procedures.

Target Population

The target population consisted of all adult learners engaged in corporate training in a hybrid-learning environment in Ecuador. According to the Ecuadorian Census

Bureau (INEC, 2012), the adult population in Ecuador capable of working is approximately 4.5 million. The accessible population consisted of all of the adult learners who received corporate training in a hybrid-learning environment at the organization where the research was conducted. In this case, 150 employees received corporate training in sales in a hybrid-learning environment. In this educational research study, a sample of individuals who are representative of the population was attempted by using the formula for finite small populations (Morales 2012).

According to Fraenkel, Wallen and Hyun (2012) the sample is the group of individuals that provide the information to be analyzed in a study. The population is the larger group to which a researcher would like to generalize the results of a study. While it is ideal to conduct a research study on a population in this study it was not possible due to geographical, time, and resource restrictions).

Sampling Method

Random sampling, a process where any individual has an equal probability of being chosen, was used in this study (Creswell, 2012). In this case, the study focused on a training program delivered to a private business in Ecuador by a corporate training division called Escuela de Empresas. The employers from the organization that received corporate training were willing to participate in this study, and they motivated their employees to respond to the LTSI. There were a total of 150 individuals who received training in a hybrid-learning environment from Escuela de Empresas.

The entire list of adult learners was obtained from the office of Academic Affairs of Escuela de Empresas and a table of random numbers was used to randomly select 30 adult learners who completed the LTSI. This means that each of the150 individuals was

assigned a number. The first person on the list was assigned the number 01, and the second person was assigned the number 02 (Lodico et al., 2010). This procedure was repeated until the 150 adult learners were allocated a number. Next, the RAND function in Excel was utilized to randomly select 30 adult learners. After the random sample was obtained, each one of the 30 adult learners received an email inviting them to participate including an informed consent prior to their participation in the study. Then, a paper and pencil survey was distributed at the corporate training organization to each participant who agreed to participate and signed the informed consent. Finally, the data was collected and analyzed.

Sample Size

The sample was drawn from a corporate training organization in Ecuador and consisted of adults who were continuing their education process after completing either high school or a bachelor's degree, who were working full time, and had financial responsibilities. Thirty individuals are required when researchers conduct a correlational study; therefore, this study collected data from 30 participants (Fraenkel et al., 2012; Lodico et al., 2010). Morales's (2012) formula for finite small populations was used to calculate the sample size:

$$n = N/(1 + \frac{e^2(N-1)}{z^2 pq})$$

N= 150 participants of the hybrid-learning program offered by Escuela de Empresas.

z= measure of standard deviation, in this case z= 1.96 for a confidence interval of 95% (Morales, 2012).

e= 10% of accepted error when the study is non-experimental (Morales, 2012).

p= 0.90 because it is assumed that most of the LTSI responses that use a Likert scale are between 4 and 5.

q= p-1= 0.1.

After implementing this formula, the sample size was 28 participants; however, a sample of 30 participants was utilized because 30 individuals is the minimum recommended number when conducting correlational research (Fraenkel et al., 2012).

Setting

Participants filled out the LTSI in one of the training sessions provided by Escuela de Empresas, the corporate training division of Universidad San Francisco de Quito. This required that the researcher was present at the training session to administer the LTSI.

Recruitment

The recruitment process involved the following steps:

1. The 30 randomly selected individuals received an invitation via email to participate in the study.
2. All of the 30 randomly selected individuals accepted to participate in the study.
3. These individuals received a copy of the informed consent via email and a printed copy during one of the training sessions at the corporate training organization.

Instrumentation

The instrument used in this research study was the Learning Transfer System Inventory (LTSI), a validated questionnaire developed by Holton and Bates (1997) in

order to measure training transfer. Holton and Bates (1997) developed the LTSI after researching transfer factors previously proposed by Rouiller and Goldstein (1993). Holton and Bates (1997) analyzed the factors that Rouiller and Goldstein presented and developed the first version of the LTSI with the following nine factors that influence training transfer: supervisor support, opportunity to use, peer support, supervisor sanctions, personal outcomes, resistance, content validity, and transfer design. After presenting these nine factors, Holton and Bates (2000) continued their research and presented a second version of the LTSI after administering the questionnaire to a group of 1,616 trainees. This new version used Holton (1996) Research and Evaluation Model as a theoretical framework to include additional factors that influence training transfer such as motivation and self-efficacy. Currently, the instrument consists of 48 items that measure 16 factors (Holton & Bates, 2011). These16 factors are explained in detail in Appendix B and include: learner readiness, performance self-efficacy, motivation to transfer learning, transfer effort-performance expectations, performance- outcomes expectations, performance coaching, supervisor/manager support, supervisor/manager opposition, peer support, resistance to change, personal outcomes-positive, personal outcomes-negative, opportunity to use learning, personal capacity for transfer, perceived content validity, and transfer design (Holton & Bates, 2011). The 16 factors are divided into four scales: trainee characteristics, motivation, work environment, and ability.

The researcher obtained Dr. Reid Bates permission, one of the authors of the LTSI, to use this questionnaire as part of a purchase agreement that grants the researcher permission to use 30 copies of the LTSI to conduct this study. Following, a translated Spanish version of the LTSI was used after using the authors recommended method of

translation, forward-backward translation, explained in detail in Chapter 1. This agreement also entailed that the researcher had to sent the LTSI authors the tabulated data with no identifiable information in order for the authors to provide the corresponding scale for each one of the 16 factors.

The factors that were analyzed in this study as measured by the LTSI were: transfer design and opportunity to use learning that correspond to the ability scale. As Holton et al. (2007) stated, the reliability coefficient for transfer design is .85 and for opportunity to use .70. When the reliability coefficient approximates the number 1, it means that the instrument is more reliable (Lodico et al., 2010). Each one of the scales of the LTSI is composed of a series of questions that are answered using the following Likert scale: 1-*Strongly disagree*, 2-*Disagree*, 3-*Neither agree nor disagree*, 4-*Agree*, 5-*Strongly agree*.

Data Collection

Data was collected from two sources: the first was the written surveys and the second was the participants' test scores. There are different ways of collecting survey data (Leeuw, Hox, & Dillman, 2008). One of the most common in educational research is to distribute a self-administered survey in a classroom setting (Leeuw et al., 2008). In this study, a self-administered survey was distributed in a classroom setting at a corporate training organization. This type of survey relates to "where the respondent has most control and can read the questions at leisure, resulted in more reliable and consistent responses and less acquiescence" (Leeuw et al., 2008, p. 124). In accordance with these findings, a self-administered questionnaire was conducted where brief instructions were given at the beginning and where the respondents had most of the control when answering the LTSI.

The data collection process is represented in Figure 1. The 11 tasks involved in the data collection process are presented in Figure 1 in their corresponding order starting from when the adult learners received a copy of the informed consent until the step involving the researcher obtaining the Spearman's rho of the variables analyzed in this study. In step 10 represented in Figure 1, the LTSI authors sent back the data with a number from 1 to 5 for each one of the 16 factors measured by the LTSI (R. Bates, personal communication, June 3, 2013).

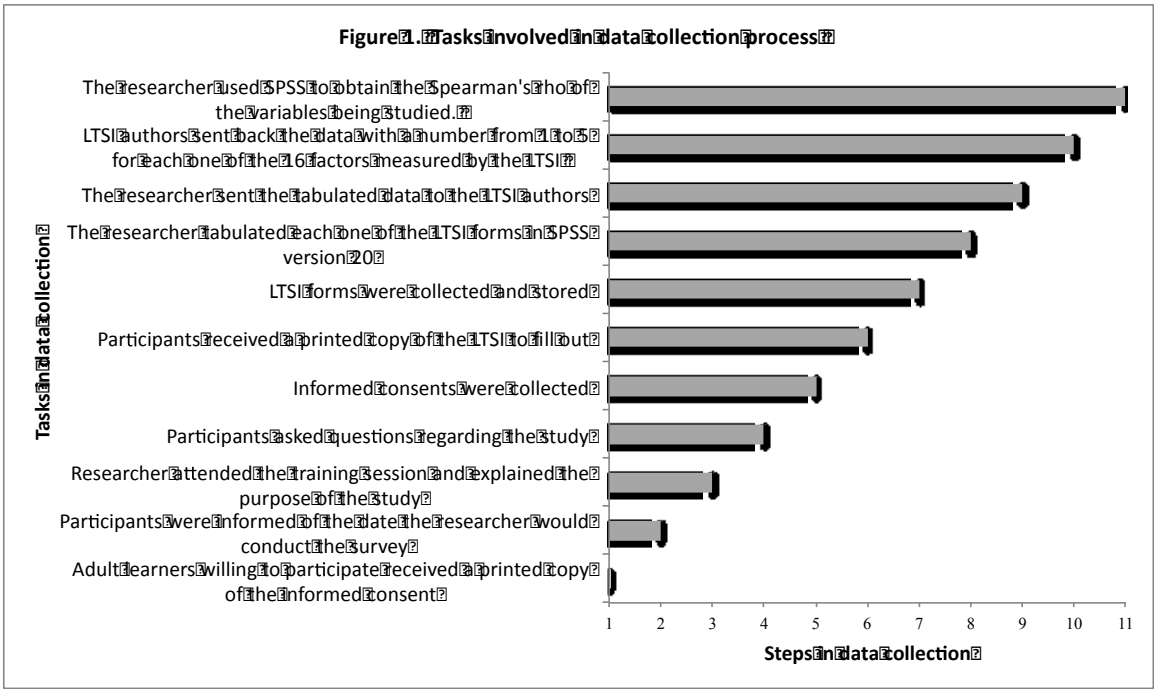

Figure 1. Tasks Involved in Data Collection Process

Operationalization of Variables

The variables of the LTSI consist of 16 factors divided in four scales: trainees' characteristics, motivation, work environment, and ability (Holton & Bates, 2011). One of the authors of the LTSI explained how each factor is calculated and what each number represents:

> The LTSI scales are scored as the mean of the items comprising a scale. For example, if there were three items comprising the transfer design scale, the scale score would be the sum of the rating for each item divided by 3 (the number of items). Since the items are rated on a 5-point scale, all scale means (i.e. scale scores) are between 1 and 5. (Personal communication, R. Bates, June 3, 2013)

Definitions of all the factors included in the LTSI are included in Appendix B. The variables that were used for this correlational study were training design, opportunity to use learning, and test scores. Training design refers to how the training has been designed in order to promote training transfer, while opportunity to use learning relates to the concrete opportunities trainees have to apply what was learned to the workplace (Holton & Bates, 2011).

Training design and opportunity to use learning, the LTSI factors that were analyzed in this study, were measured by obtaining a number from 1 to 5 that represents the mean score of the questions that comprise each factor. These two variables were treated as ordinal scales since as suggested by Creswell (2012), Likert scales can be used either as interval or ordinal scales depending on the statistical test that will be performed. An ordinal scale measures "more or less" however the intervals are not specified (Leedy & Ormrod, 2013). In this case, a nonparametric statistical test, Spearman's rho, was utilized (Creswell, 2012). Nonparametric statistics are used when the data being analyzed is not normally distributed, when the sample does not represent the population, and when the variables are not measured as interval scales (Chen & Popovich, 2002; Ravid, 2011).

Test scores were measured by obtaining a number from 0 to 100 that represented each participant's grade on the test that pertains to the training received. The dependent

variable test scores was considered a ratio scale variable since it has an absolute zero (Leedy & Ormrod, 2013).

Educational researchers using questionnaires with Likert scales, frequently use Spearman´s rho to determine the relationship among variables that are measured on rank-ordered scales as the Likert scale (Creswell, 2012). In this study, the dependent variable was test scores and the two independent variables were transfer design and opportunity to use learning.

Data Analysis Procedures

The research hypotheses were answered by obtaining data from conducting the LTSI, by obtaining the participants' test scores, and by analyzing the results of the Spearman´s rho. The data was collected after administering the paper and pencil survey and was tabulated in SPSS version 20.

The LTSI includes 48 questions that must be answered using the following Likert scale:

1 - *Strongly disagree*, 2 – *Disagree*, 3 - *Neither agree nor disagree*, 4 - *Agree*, 5 - *Strongly agree*.

After tabulating the data from the LTSI in SPSS, the data was sent to the LTSI authors. The authors keep the questions that comprise each factor measured by the LTSI confidential. A number from 1 to 5 was obtained for each one of the LTSI factors (R. Bates, personal communication, June 3, 2013). These numbers represent a mean score of the questions included in each factor and were used to obtain the Spearman´s rho.

Finally, the information collected and analyzed from the survey was stored in SPSS along with the participants' test scores in a password protected computer.

Limitations of the Research Design

The sample size selected for this study consisted of 30 Ecuadorian adult learners receiving sales training in a hybrid-learning environment. The size of the sample limits the possibility of generalizing the results to the population of Ecuadorian adult learners.

Internal Validity

The LTSI has been internally validated and each one the factors included in the LTSI was analyzed in terms of construct validity (Holton, et al., 2007). Selecting the participants might be a threat to internal validity; however, Holton et al. (2007) explained that in order to test the LTSI for internal validity, a random sample of participants was selected. When analyzing construct validity, the validity of the variables within a study, the authors concluded that the "LTSI measures unique constructs with the potential to add significantly to our understanding of learning transfer climates and systems in organizations" (Holton et al., 2007, p. 413; Creswell, 2012). This means that the variables within the LTSI have been tested for construct validity and are valid measures for training transfer. However, as Velada et al. (2007) suggested, the LTSI does not demonstrate the relationship between the factors it analyzes and training transfer.

After analyzing each of the 16 factors with a heterogeneous sample, this instrument was validated for construct validity (Holton et al., 2007). Construct validity means that "an instrument is accurately measuring an abstract trait or ability" (Lodico et al., 2010, p. 99). In addition, as Holton et al. (2007) emphasized, "the LTSI provides the most comprehensive and most extensively validated instrument to access dimensions of

the learning transfer climate that has been developed to date" (p. 414). The LTSI can provide useful information so that both employers and employees can modify their practices to enhance training transfer in the workplace (Holton et at, 2007).

External Validity

External validity "refers to the validity of the cause-and-effect relationship being generalizable to other persons, settings, treatment variables, and measures" (Creswell, 2012, p. 303). This instrument has been tested in countries such as Germany, Ukraine, Portugal, Jordan, and Taiwan, demonstrating that is has cross-cultural validity (Holton et al., 2007). The LTSI factors "have demonstrated construct validity based on factor analysis with a database of more than 8,000 respondents from 20 different countries representing a wide variety of industries, jobs, company types, and levels of employees" (Holton & Bates, 2011, p. 3).

The LTSI is a validated instrument that has been extensively used in the United States. It has also been validated in Germany, Portugal, France, Ukraine, Jordan, and Taiwan across various types of organizations. The LTSI authors utilize a translation technique, forward-backward methodology, that considers cultural differences in order to obtain a validated translated version that actually measures what the LTSI intends to measure (Holton et al., 2007). That is why that the Spanish version of the LTSI used for this study could be used in other Latin American countries where Spanish is the dominant language.

Expected Findings

According to Saks and Belcourt (2006) training transfer is an issue that concerns organizations because it has personal and professional implications for employees. As

Khasawneh, Bates & Holton (2006) concluded, when employees have a more professional experience, they are better able to adapt the activities done at a training session and find an opportunity to use it at their workplace. The research hypotheses of this study were answered in terms of justifying the importance of having an appropriate training design based on adult learning principles. Also, when trainees are provided with opportunities to use what they learned, their test scores could be higher since they will have a better understanding of how the knowledge learned in training is applicable in their jobs. That is why the expected result of this study was to reject the null hypothesis. This means that a correlation between transfer design and opportunity to use learning was expected, as determined by the LTSI, and trainees' test scores among a group of adult learners who received corporate training in a hybrid-learning environment in Ecuador.

Ethical Issues

This section presents an analysis of potential ethical issues related to this research study.

Researcher's Position Statement

This part of the study presents the researcher´s position statement and the conflict of interest assessment.

Conflict of Interest Assessment

The researcher works at the corporate training division where this study was conducted. In order to minimize a possible conflict of interest, the researcher disclosed this information to the participants of this study so they did not feel that they were required to participate. There were no financial sponsors for this research study.

Position Statement

The researcher is the academic coordinator at the corporate training division where the study was held. However, the researcher was not involved in the training sessions that the participants received.

Training transfer has been analyzed from different perspectives in order to determine what factors promote or not what employees apply on their actual jobs. Holton et al (2000), developed a validated instrument, the LTSI, in order to help employers maximize training transfer within an organization. This instrument provides concrete quantitative data that an employer could use to promote factors that enhance training transfer and to find solutions for factors that are hindering transfer.

Ethical Issues in the Study

Participants in this study were not exposed to harm, and there were no indicators that any participant felt uncomfortable as a result of questions included in the LTSI. The informed consent was key to disclosing important information so that participants knew that their participation was voluntary, that their information will be kept confidential, and that their employers will not be able to identify their answers.

Chapter 3 Summary

This chapter analyzed how the research problem and research hypotheses are aligned with the chosen methodology, data collection, and data analysis procedures. This study analyzed how one dependent variable, test scores, is correlated with two independent variables, transfer design and opportunity to use learning. Consequently, a Spearman´s rho was used to analyze the alternative hypotheses. Training transfer is a research problem that needs to be understood in an Ecuadorian context by using the LTSI

and finding the correlation between training design, opportunity to use learning, and the participants' test scores after receiving training in a hybrid-learning environment.

CHAPTER 4. DATA ANALYSIS AND RESULTS

Introduction to Chapter 4

Chapter 4 presents the description of the sample, the summary of the results, and a detailed analysis of the data. The analysis was done according to the hypotheses and the statistical results from applying Spearman rho.

The hypotheses for this study were:

$H_1$1: There is a positive correlation between transfer design as determined by the LTSI, and trainees' test scores among a group of adult learners who received corporate training in a hybrid-learning environment in Ecuador.

$H_0$1: There is no correlation between transfer design as determined by the LTSI, and trainees' test scores among a group of adult learners who received corporate training in a hybrid-learning environment in Ecuador.

$H_1$2: There is a positive correlation between opportunity to use learning as determined by the LTSI, and trainees' test scores among a group of adult learners who received corporate training in a hybrid-learning environment in Ecuador.

$H_0$2: There is no correlation between opportunity to use learning as determined by the LTSI, and trainees' test scores among a group of adult learners who received corporate training in a hybrid-learning environment in Ecuador.

Description of the Sample

The sample of this study consisted of a group of 30 Ecuadorian adult trainees that received training in sales in a hybrid-learning environment. All the learners work in the same private company and are required by their employers to attend corporate training in

sales as part of their job description. The trainees received face-to-face classes and online asynchronous sessions through a learning management system.

The sample size was determined by using the formula for finite small populations:

$$n = N/(1 + \frac{e^2(N-1)}{z^2 pq})$$

N= 150 participants of the hybrid-learning program offered by Escuela de Empresas.

z= measure of standard deviation, in this case z= 1.96 for a confidence interval of 95% (Morales, 2012).

e= 10% of accepted error when the study is non-experimental (Morales, 2012).

p= 0.90 because it is assumed that most of the LTSI responses that use a Likert scale are between 4 and 5.

q= p-1= 0.1.

The sample size obtained after applying Morales' (2012) formula for finite small populations was 28. However, a sample of 30 individuals was used since it is the sample size recommended when conducting correlational research (Creswell, 2012; Fraenkel et al., 2012).

The 30 individuals were randomly selected from the 150 trainees that received sales training in a hybrid-learning environment during a period of 3 months. All of the 30 individuals agreed to participate in the study and none of them withdrew during the study. The 30 adult learners completed the LTSI in one of their face-to-face training sessions. The data were collected from the results of the LTSI of each one of the participants and from their test grades provided by the Academic Assistant of the corporate training division where they received training.

Summary of the Results

The results are presented in relation to each one of the hypotheses of this study.

$H_1$1: There is a positive correlation between transfer design as determined by the LTSI, and trainees' test scores among a group of adult learners who received corporate training in a hybrid-learning environment in Ecuador.

$H_0$1: There is no correlation between transfer design as determined by the LTSI, and trainees' test scores among a group of adult learners who received corporate training in a hybrid-learning environment in Ecuador.

Results: Analysis of data yielded a negative and not significant correlation between transfer design as determined by the LTSI, and trainees' test scores among a group of adult learners who received corporate training in a hybrid-learning environment in Ecuador.

$H_1$2: There is a positive correlation between opportunity to use learning as determined by the LTSI, and trainees' test scores among a group of adult learners who received corporate training in a hybrid-learning environment in Ecuador.

$H_0$2: There is no correlation between opportunity to use learning as determined by the LTSI, and trainees' test scores among a group of adult learners who received corporate training in a hybrid-learning environment in Ecuador.

Results: Data analysis showed there is no significant correlation between opportunity to use learning as determined by the LTSI, and trainees' test scores among a group of adult learners who received corporate training in a hybrid-learning environment in Ecuador.

Detailed Analysis

The Spearman rank order correlation coefficient (Spearman's rho) was utilized to test the alternative hypotheses of this study. The independent variables, training design, and opportunity to use learning, were measured using the LTSI. This inventory measures 16 factors using a Likert Scale from 1 to 5 with the following equivalencies: 1-*Strongly disagree*, 2-*Disagree*, 3-*Neither agree nor disagree*, 4-*Agree*, 5-*Strongly agree*. The 16 factors were measured with a number from 1 to 5 that represented the mean score of the questions that comprised each factor.

Descriptive statistics for transfer design, opportunity to use learning, and test scores are shown in Table 1. The total number of participants of this study was 30.

Table 1

Descriptive Statistics

	N	Minimum	Maximum	Mean	Std. Deviation
Transfer Design	30	2.33	5.00	4.0333	.76489
Opportunity To Use Learning	30	3.50	5.00	4.5167	.48215
Test Scores	30	53.33	100.00	76.00	12.87

Alternative Hypothesis 1

The Spearman's rho was used to determine if there was a positive correlation between transfer design as measured by the LTSI and the test scores of a group of adult learners that received training in a hybrid-learning environment in Ecuador. The Spearman rho correlation coefficient is a number from -1.00 to +1.00 where -1.00 represents a perfect negative correlation and +1.00 represents a perfect positive

correlation (Ravid, 2011). The sign of the correlation coefficient does not represent the strength of the correlation but the absolute value must be considered when analyzing the coefficient (Ravid, 2011).

Correlation coefficients obtained from this study were analyzed using the three categories proposed by Ravid (2011): correlation coefficients between .00 and .33 were considered low, correlation coefficients between .34 and .66 were reported as moderate, and correlation coefficients between .67 and 1.00 were considered high. In Table 2, the Spearman's rho correlation coefficient of -0.066 shows a negative, low, and not significant correlation between transfer design as measured by the LTSI and test scores. Therefore, the alternative hypothesis was rejected and the null hypothesis accepted.

Table 2

Spearman Correlations between Transfer Design and Test Scores

		Transfer Design	Test scores
Transfer Design	Spearman´s rho Correlation Coefficient	1.000	-.066
	Sig. (2-tailed)		.727
	N	30	30
Test scores	Spearman´s rho Correlation Coefficient	-.066	1.000
	Sig. (2-tailed)	.727	
	N	30	30

Alternative Hypothesis 2

The Spearman's rho was used to determine if there was a positive correlation between opportunity to use learning as measured by the LTSI and the test scores of a group of adult learners that received training in a hybrid-learning environment in

Ecuador. In Table 3, the Spearman rho correlation coefficient of 0.111 shows a positive number that represents a low and not significant correlation between opportunity to use learning as measured by the LTSI and test scores. Consequently, the alternative hypothesis was rejected and the null hypothesis accepted.

Table 3

Spearman Correlations between Opportunity to Use Learning and Test Scores

		Opportunity to use	Test scores
Opportunity to use	Spearman´s rho Correlation Coefficient	1.000	.111
	Sig. (2-tailed)		.560
	N	30	30
Test scores	Correlation Coefficient	.111	1.000
	Sig. (2-tailed)	.560	
	N	30	30

Chapter 4 Summary

The results presented in Chapter 4 showed low correlation coefficients between transfer design, opportunity to use learning, and test scores among a group of adult learners who received training in a hybrid-learning environment in Ecuador. The correlation coefficients for both hypotheses were not significant. The analysis of the data led the researcher to accept the null hypotheses for the two hypotheses presented in this study.

The following chapter presents the findings from Chapter 4 in detail, provides an interpretation of the results, examines limitations of this study, discusses research in

training transfer in order to analyze how this study relates to prior studies in this field, and presents recommendations for future research.

CHAPTER 5. CONCLUSIONS AND DISCUSSION

Introduction to Chapter 5

The problem of determining what factors promote or hinder training transfer in organizations continues to concern employers around the world. The process of transfer design and opportunity to use learning in the workplace have been analyzed in this study. Research has shown that when trainees' needs and expectations are considered, then training transfer is more likely to happen (Goldstein, 1980). Supervisors involved in the training design and aligned with the training objectives promote opportunities for employees to apply the new learning back into the workplace (Seyler et al., 1998; Yaghi et al., 2008).

The purpose of this correlational study was to explore the relationships between transfer design and opportunity to use learning as measured by the Learning Transfer System Inventory (LTSI), and the final test scores from a group of Ecuadorian adult learners who received training in a hybrid-learning environment. Spearman's rho correlation coefficient was used to determine the correlation between transfer design and opportunity to use learning as measured by the LTSI and the test scores from a group of Ecuadorian adult learners that received training in a hybrid-learning environment.

The purpose of Chapter 5 is to discuss, and further interpret the results obtained in Chapter 4. A summary of the results is presented, followed by a discussion of the results together with reference to the literature. Limitations of the study and recommendations for further research in regards to training transfer are presented.

Summary of the Results

The purpose of this study was to investigate the relationship between transfer design, opportunity to use learning as measured by the LTSI, and the test scores of a group of Ecuadorian adult learners who received training in a hybrid-learning environment. Previous studies have found a strong relationship between transfer design and training transfer (Burke & Hutchins, 2007). Research conducted in the United Kingdom revealed that opportunity to use learning is a key factor when promoting training transfer (Clarke, 2002). Previous research that involved sales representatives and their employers revealed that employees who participated in the training design by discussing learning objectives with their supervisors were more motivated and performed better than employees who did not have the opportunity to discuss their learning objectives with their employers (Gumuseli & Ergin, 2002).

The following alternative and null hypotheses were proposed in this study:

$H_1$1: There is a positive correlation between transfer design as determined by the LTSI, and trainees' test scores among a group of adult learners who received corporate training in a hybrid-learning environment in Ecuador.

$H_0$1: There is no correlation between transfer design as determined by the LTSI, and trainees' test scores among a group of adult learners who received corporate training in a hybrid-learning environment in Ecuador.

$H_1$2: There is a positive correlation between opportunity to use learning as determined by the LTSI, and trainees' test scores among a group of adult learners who received corporate training in a hybrid-learning environment in Ecuador.

$H_0$2: There is no correlation between opportunity to use learning as determined by the LTSI, and trainees' test scores among a group of adult learners who received corporate training in a hybrid-learning environment in Ecuador.

The hypotheses of this study examined the relationship between two factors of the LTSI and the test scores of a group of Ecuadorian adult learners that received sales training in a hybrid-learning environment. Transfer design refers to how training has been designed in order to promote training transfer (Holton & Bates, 2011). Opportunity to use learning is accomplished when trainees have the required resources and are given concrete tasks to apply the new learning in the workplace. The results of testing the first hypothesis that stated there was a positive correlation between transfer design and trainees' test scores showed that there is not a significant correlation between the variables mentioned and the null hypothesis was not rejected.

The second hypothesis stated that there was positive correlation between opportunity to use learning and trainees' test scores. The results of testing this hypothesis showed that there is not a significant correlation between opportunity to use learning and trainees' test scores; consequently, the null hypothesis was not rejected. The LTSI measures training design and opportunity to use learning using the following Likert Scale: 1-*Strongly disagree*, 2-*Disagree*, 3-*Neither agree nor disagree*, 4-*Agree*, and 5-*Strongly agree*. The scale scores obtained for transfer design and opportunity to use learning were close to 5; therefore, trainees perceived that their needs were considered during the design phase and that they were given tasks with the necessary resources to transfer learning back into the workplace.

Discussion of the Results

This section presents an interpretation of the results in relation to transfer design and test scores, opportunity to use learning and test scores, and test scores.

Interpretation of the Results: Transfer Design and Test Scores

The results of the first alternative hypothesis mean that there was not a significant relationship between transfer design as measured by the LTSI and the adult learners' test scores. This means that the correlation coefficient obtained after correlating transfer design and the participants' test scores did not result in a significant coefficient that demonstrated that there is a strong relationship between these two variables. In other words, the null hypothesis was not rejected because the Spearman's rho of -0.066 was not significant when correlating transfer design and trainees' test scores. This result means that there is not a significant relationship between how training has been designed and the test scores that learners obtained after training. Also, the mean score obtained for transfer design means that the participants consider that the learning objectives and training material were appropriate and allowed them to transfer learning back into the workplace.

Transfer design was measured using the LTSI which uses a Likert Scale from 1 to 5 to measure each factor. The Likert Scale used was the following: 1-*Strongly disagree*, 2-*Disagree*, 3-*Neither agree nor disagree*, 4-*Agree*, and 5-*Strongly agree*. As observed in Table 1 in Chapter 4, the score obtained for transfer design was 4.033 which suggests that the adult learners that received sales training in a hybrid-learning environment agree with the examples and activities used during their training sessions since they resemble the tasks they perform in their daily jobs. The design allowed trainees to transfer new knowledge and skills back into the workplace.

Interpretation of the Results: Opportunity to Use Learning and Test scores

The results of the second alternative hypothesis mean that there was not a significant relationship between opportunity to use learning as measured by the LTSI and the participants' test scores among a group of adult learners that received sales training in a hybrid-learning environment. This entails that opportunity to use learning does not have a significant relationship with the adult learners' test scores. Consequently, the null hypothesis was retained because the Spearman's rho that was obtained, 0.111, was not significant after correlating opportunity to use learning and trainees' test scores. Opportunity to use new learning in the workplace after training does not have a significant relationship with the test scores obtained from a group of trainees that received sales training in a hybrid-learning environment.

Opportunity to use learning was measured using the LTSI and the same Likert Scale used to measure transfer design. The mean score obtained for opportunity to use learning as observed in Table 1 in Chapter 4 is 4.516. This score suggests that the adult learners that received sales training in a hybrid-learning environment agree that the organization they work for provides them with opportunities and the required resources to apply new skills that have been learned during training.

Interpretation of the Results: Test Scores

Tests have been utilized as a way to determine if learning was accomplished after receiving training (Twitchell, Holton & Trott, 2000). A test is often used to measure how well the participants' understood the content of training (Bower, 2011). One way to determine if sales training is effective is by implementing a test at the end of training to measure the knowledge acquired by participants. The purpose of the test administered to

the participants of this study was to measure the knowledge acquired after sales training (Escuela de Empresas, 2013). The mean test score of the adult learners that participated in this study was 76 over 100 possible points. After analyzing each one of the hypotheses of this study, there was not a significant relationship between opportunity to use learning, transfer design and the participants' test scores.

Discussion of the Results in Relation to the Literature

This section presents a discussion of the results of this study and the literature related to transfer design, opportunity to use learning, test scores, learning environment, and experiential and transformational learning.

Transfer Design

This study measured transfer design and opportunity to use learning from a group of adult learners that received sales training in a hybrid-learning environment. Transfer design was measured using the LTSI which provides a mean score from 1 to 5 measured by a Likert Scale. In this case the result obtained for transfer design was 4.033 as presented in Table 1 in Chapter 4. This means that the adult learners that responded to the LTSI in this study, agree that transfer design for this particular sales training was designed considering the specific tasks they perform in their workplace.

Transfer design refers to the extent to which a specific training program is designed in order to promote the application of what is being learned by using concrete examples and strategies that facilitate the application back into the workplace (Holton & Bates, 2011). As suggested by (Saks & Belcourt, 2006), when trainees are involved in the design process, then training transfer is more likely to occur. Correlational research conducted by Velada et al (2007), demonstrated the importance of analyzing trainees'

characteristics before designing training in order to align training objectives with the specific characteristics of trainees. In this study, trainees were involved in a focus group in which they were asked questions about the course content and their interests before Escuela de Empresas designed the sales training they received.

Opportunity to Use Learning

Opportunity to use learning was also measured using the LTSI and a Likert Scale from 1 to 5. The mean score obtained for opportunity to use was 4.516 as presented in Table 1 in Chapter 4. This score means that the adult learners that received sales training in a hybrid-learning environment considered they had concrete opportunities to use what they learned in their workplaces. Opportunity to use learning refers to the extent to which trainees have concrete opportunities to use the new learning and have access to the resources required to apply new learning in their workplaces (Holton & Bates, 2011).

Previous research confirms that opportunity to use learning is one of the most determinant factors that promote training transfer (Clarke, 2002; Seyler et al., 1998; Wentling, 1998;). The findings from this study are consistent with the importance of training design and opportunity to use learning in order to promote training transfer. The results from this particular study are indicative of a positive learning transfer system.

Employers can benefit from analyzing factors such as transfer design and opportunity to use learning as measured by the LTSI since previous research confirmed that both factors promote training transfer (Lim & Wentling, 1998; Saks & Belcourt, 2006; Seyler et al., 1998). Effective training design has proven to have a positive effect in organizations where managers want to promote change (Golembiewski, Munzenrider, Blumberg, Carrigan, Mead, 1971).

Test scores

Training design and opportunity to use learning, two of the 16 aspects measured by the LTSI, were used to determine if they had a relationship with the test scores of a group of Ecuadorian adult learners. Both employers and employees use the results of test scores to determine if the required knowledge and skills were attained after training (Bober & Bartlett, 2004). Test scores are a form of training evaluation that serves an instrumental purpose. This means that the results of tests are used immediately as a way of program evaluation. In this study, test scores were used to determine the level of participants' knowledge and also to assess who passed or failed the sales training program (Escuela de Empresas, 2013). The results of testing the hypotheses of this study revealed that there is not a significant relationship between training design, opportunity to use learning and the participants' test scores.

Previous research confirmed the importance of testing learners after receiving sales training in order to provide managers with information to make decisions about training in the future (Morrow, Jarrett & Rupinski, 1997). A study that analyzed Emergency Medical Technicians found out that there is a positive correlation between the quality of instruction and the test scores (Russ-Eft, Dickison & Levine, 2010). The LTSI factor of transfer design considers how instruction is delivered since the learning objectives and strategies are established during this phase.

A study conducted in Korea to 81 adults who received corporate training revealed that there is a positive correlation between transfer design and test scores after using instruments that measure transfer such as the perception survey of learning, perception survey of application, the training satisfaction survey, and the organizational climate

survey (Lim & Morris, 2006). On the other hand, there have not been previous studies that have correlated LTSI factors such as transfer design and opportunity to use learning with learners' test scores (R. Bates, personal communication, September 19, 2013).

Hybrid-learning Environment

The learning environment has to be considered when analyzing training transfer. Adult learners receiving e-learning are able to achieve learning objectives when adequate technical support is provided (Schneberger, Amoroso & Durfee, 2007). In this study, the corporate training organization that provided training in a hybrid-learning environment, Escuela de Empresas, offered technical support to the adult learners that took the sales training program.

Experiential and Transformational Learning

Escuela de Empresas uses principles of transformational and experiential learning theory in the training programs it offers since adult learners are allowed to analyze concrete experiences and reflect upon them in order to process new learning (Escuela de Empresas, 2013). Previous research conducted to a group of expatriate managers revealed that using experiential learning allowed the managers to adapt to their new organization and to learn the tasks required to perform their new jobs (Yamazaki & Kayes, 2004). Experiential learning has been used in corporate training since learners are exposed to new experiences and after a reflection process they are able to acquire new knowledge.

Transformational learning can be used in corporate training as a means to allow adult learners to reflect upon their mental schemes. Cranton (2002) recommends the use of critical incidents as a means to allow adults to reflect about positive or negative

experiences with their supervisors. This exercise can allow adults to analyze why they consider an experience positive or negative and then continue to reflect upon these experiences in order to discuss and reconsider past points of view.

Limitations

The limitations of this study were related to sample size, response bias, methodology, geographic limitations, technical difficulties, test anxiety, and business sector.

Sample Size

The sample size used for this study consisted of 30 adult learners that received sales training in a hybrid-learning environment. This sample size is the minimum accepted in order to conduct a correlational study; however, larger samples allow researchers to generalize results to a larger population (Fraenkel et al., 2012; Creswell, 2012).

Response Bias

There is the possibility that the participants of this study responded the LTSI with bias. This refers to the probability that the participants' responses do not reflect the views of the sample or the population (Creswell, 2012). In this study, participants' selected their responses based on a Likert Scale from 1 to 5 to respond to every question and there is the possibility that these responses do not reflect the views of a larger population.

Methodology

The methodology used in this study was correlational research. This type of design does not determine the cause of a relationship between variables but indicates the degree of association between two or more variables (Creswell, 2012). This is a

limitation of this study since the cause of a relationship between the variables analyzed cannot be determined by using correlational research.

Geographic Limitations

Previous research using the LTSI has not been conducted in Latin America. The sample selected for this study included only adult learners from Ecuador and it is not possible to generalize the results from this study to other Latin American countries since a more representative sample was not studied.

Technical Difficulties

This study analyzed a group of adults that used a learning management system to receive the online training component of a sales program. In this study, technical difficulties were not considered when analyzing transfer and as reported by Sitzmann, Ely, Bell and Bauer (2010) when learners face such difficulties transfer decreases and learners obtain lower test scores.

Test Anxiety

This study correlated two factors of the LTSI with test scores. One of the factors that influence test scores is test anxiety, a factor that was not considered when analyzing the test scores of the participants of this study. Test anxiety is negatively correlated with academic achievement. This means that if learners have a higher test anxiety, then their academic achievement will decrease (Joo, Lim & Kim, 2012). Test anxiety could have influenced the adult learners' test scores from this study and it was not considered.

Business Sector

The adult learners that participated in this study belong to one specific type of private industry. Other industries were not considered and also public or non-for-profit organizations were not taken into consideration.

Recommendations for Further Research

Training transfer has not been previously analyzed by using a validated instrument such as the LTSI in Latin America. The factors that the LTSI discusses can be beneficial for both employers and employees seeking to increase training transfer. Managers need to understand what factors are contributing and what factors are hindering training transfer within organizations. Failure to understand these factors could result in a low training transfer. Further research using the LTSI is necessary in order to comprehend training transfer in Latin America.

Hybrid-learning environments are being used around the world as a means to train employees that do not have time to attend face-to-face training programs. This learning environment has been used in corporate training in Ecuador only for the last five years and further research is necessary to understand the implications of using hybrid-learning environments in corporate training in this particular context.

The results of this study are the first from a Latin American country to have used the LTSI to measure how transfer design and opportunity to use learning correlate with the test scores of a group of adult learners that received training in a hybrid-learning environment. Replication of this study in other Latin American countries would allow employers to better understand training transfer in this region of the world. Research

needs to be done in public organizations and other private industries in order to better comprehend training transfer in Ecuador and other Latin American countries.

A replication of this study is recommended using a larger sample size. It is also recommended to conduct interviews to key informants in order to obtain qualitative information to complement the information derived from the LTSI. This study was limited to 30 adult learners, a factor that may have influenced the results of this study which concluded that there was not a significant relationship between transfer design, opportunity to use learning and the participants' test scores. Additional studies need to be conducted in order to address the limitations of this study. Finally, a study comparing the results of the LTSI between different Latin American countries could provide useful information about training transfer in this region of the world.

Conclusion

There is no significant relationship between transfer design and opportunity to use learning as measured by the LTSI and the test scores of a group of adult learners that received training in a hybrid-learning environment. The LTSI mean scores obtained for transfer design and opportunity to use learning from this group of adult learners revealed that a positive learning transfer system is perceived among them. The sample size for this study was a limitation and further research using a larger sample is recommended in order to understand training transfer in a Latin American context.

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APPENDIX A. STATEMENT OF ORIGINAL WORK

Academic Honesty Policy

Capella University's Academic Honesty Policy (3.01.01) holds learners accountable for the integrity of work they submit, which includes but is not limited to discussion postings, assignments, comprehensive exams, and the dissertation or capstone project.

Established in the Policy are the expectations for original work, rationale for the policy, definition of terms that pertain to academic honesty and original work, and disciplinary consequences of academic dishonesty. Also stated in the Policy is the expectation that learners will follow APA rules for citing another person's ideas or works.

The following standards for original work and definition of *plagiarism* are discussed in the Policy:

> Learners are expected to be the sole authors of their work and to acknowledge the authorship of others' work through proper citation and reference. Use of another person's ideas, including another learner's, without proper reference or citation constitutes plagiarism and academic dishonesty and is prohibited conduct. (p. 1)
>
> Plagiarism is one example of academic dishonesty. Plagiarism is presenting someone else's ideas or work as your own. Plagiarism also includes copying verbatim or rephrasing ideas without properly acknowledging the source by author, date, and publication medium. (p. 2)

Capella University's Research Misconduct Policy (3.03.06) holds learners accountable for research integrity. What constitutes research misconduct is discussed in the Policy:

> Research misconduct includes but is not limited to falsification, fabrication, plagiarism, misappropriation, or other practices that seriously deviate from those that are commonly accepted within the academic community for proposing, conducting, or reviewing research, or in reporting research results. (p. 1)

Learners failing to abide by these policies are subject to consequences, including but not limited to dismissal or revocation of the degree.

Statement of Original Work and Signature

I have read, understood, and abided by Capella University's Academic Honesty Policy (3.01.01) and Research Misconduct Policy (3.03.06), including the Policy Statements, Rationale, and Definitions.

I attest that this dissertation or capstone project is my own work. Where I have used the ideas or words of others, I have

paraphrased, summarized, or used direct quotes following the guidelines set forth in the APA *Publication Manual*.

Learner name and date	Karla Diaz, October 30, 2013.
Mentor name and school	Dr. Katherine Emmons, PhD, School of Education

APPENDIX B. LEARNING TRANSFER SYSTEM INVENTORY (LTSI) SCALE DEFINITIONS

LTSI Scale Descriptions

Scale Name	Scale Definition	Scale Description
Trainee Characteristics Scales		
Learner Readiness	The extent to which individuals are prepared to enter and participate in a training program.	This factor addresses the degree to which the individual had the opportunity to provide input prior to the training, knew what to expect during the training, and understood how training was related to job-related development and work performance.
Performance Self-Efficacy	An individual's general belief that they are able to change their performance when they want to.	The extent to which individuals feel confident and self-assured about applying new abilities in their jobs, and can overcome obstacles that hinder the use of new knowledge and skills.
Motivation Scales		
Motivation to Transfer Learning	The direction, intensity and persistence of effort toward utilizing in a work setting skills and knowledge learned in training.	The extent to which individuals are motivated to utilize learning in their work. This includes the degree to which individuals feel better able to perform, plan to use new skills and knowledge, and believe new skills will help them to more effectively perform on-the-job
Transfer Effort—Performance Expectations	The expectation that effort devoted to transferring learning will lead to changes in job performance.	The extent to which individuals believe that applying skills and knowledge learned in training will improve their performance. This includes whether an individual believes that investing effort to utilize new skills has made a difference in the past or will affect future productivity and effectiveness.

Performance—Outcomes Expectations	The expectation that changes in job performance will lead to outcomes valued by the individual.	The extent to which individuals believe the application of skills and knowledge learned in training will lead to recognition they value. This includes the extent to which organizations demonstrate the link between development, performance, and recognition, clearly articulate performance expectations, recognize individuals when they do well, reward individuals for effective and improved performance, and create an environment in which individuals feel good about performing well.
Work Environment Scales		
Performance Coaching	Formal and informal indicators from an organization about an individual's job performance	The extent to which individuals receive constructive input, assistance, and feedback from people in their work environment (peers, employees, colleagues, managers, etc..) when applying new abilities or attempting to improve work performance. Feedback may be formal or informal cues from the workplace.
Supervisor/Manager Support	The extent to which managers support and reinforce the use of learning on-the-job.	This includes managers' involvement in clarifying performance expectations after training, identifying opportunities to apply new skills and knowledge, setting realistic goals based on training, working with individuals on problems encountered while applying new skills, and providing feedback when individuals successfully apply new abilities.
Supervisor/Manager Opposition	The extent to which individuals perceive negative responses from managers when applying skills learned in training.	This includes when managers oppose the use of new skills and knowledge, use techniques different from those taught in training, do not assist individuals in identifying opportunities to apply new skills and knowledge, or provide inadequate or negative feedback when individuals successfully apply learning on-the-

		job.
Peer Support	The extent to which peers reinforce and support use of learning on-the-job.	This includes the degree to which peers mutually identify and implement opportunities to apply skills and knowledge learned in training, encourage the use of or expect the application of new skills, display patience with difficulties associated with applying new skills, or demonstrate appreciation for the use of new skills
Resistance to Change	The extent to which prevailing group norms are perceived by individuals to resist or discourage the use of skills and knowledge acquired in training.	This includes the work groups' resistance to change, willingness to invest energy to change, and degree of support provided to individuals who use techniques learned in training.
Personal Outcomes-Positive	The degree to which applying training on the job leads to outcomes that are positive for the individual.	Positive outcomes include: increased productivity and work effectiveness, increased personal satisfaction, additional respect, a salary increase or reward, the opportunity to further career development plans, or the opportunity to advance in the organization.
Personal Outcomes—Negative	The extent to which individuals believe that if they do not apply new skills and knowledge learned in training that it will lead to outcomes that are negative.	Negative outcomes include: reprimands, penalties, peer resentment, reassignment to undesirable jobs, or reduced opportunities for further job or career development.
Ability Scales		
Opportunity to Use Learning	The extent to which trainees are provided with or obtain resources and tasks on the job enabling them to use the skills taught in training.	This includes an organization providing individuals with opportunities to apply new skills, resources needed to use new skills (equipment, information, materials, supplies), and adequate financial and human resources.
Personal Capacity for Transfer	The extent to which individuals have the time, energy and mental	This factor addresses the extent to which individuals' work load, schedule, personal energy, and stress-

	space in their work lives to make changes required to transfer learning to the job.	level facilitate or inhibit the application of new learning on-the-job.
Perceived Content Validity	The extent to which the trainees judge the training content to accurately reflect job requirements.	This factor addresses the degree to which skills and knowledge taught are similar to performance expectations as well as what the individual needed to perform more effectively. It also addresses the extent to which instructional methods, aids, and equipment used in training are similar to those used in an individual's work environment.
Transfer Design	The extent to which training has been designed to give trainees the ability to transfer learning to job application.	The extent to which the training program is designed to clearly link learning with on-the-job performance through the use of clear examples, methods similar to the work environment, and activities and exercises that clearly demonstrate how to apply new knowledge and skills.

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