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Environmental Perceptions to Promote Self-directed Learning in the Workplace

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Environmental Perceptions to Promote

Self-directed Learning in the Workplace

by

Trevor Marshall Bernard

A dissertation submitted in partial fulfillment
of the requirements for the degree of
Doctor of Philosophy
In Curriculum and Instruction with an emphasis in
Adult Education
Department of Leadership, Counseling, Adult, Career and Higher Education
College of Education
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Dedication

This dissertation is dedicated to my mother and father Jeanne and Dr. Thomas Bernard, brother Devon, wife Dulce, and two children Tate and Bennett. I cannot thank you enough for your enduring support and encouragement.

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I'd like to recognize everyone who has helped me complete this pilgrimage. Like any long journey, you learn a lot about yourself, but even more about the people who were there to support you when you wanted to stop and when you are finally able to celebrate your goal.

First, my loving wife, Dulce who sacrificed more than I can repay her. You kept everything running through the birth of two children, my studies, and a move out of state. My parents Jeanne and Thomas for giving me the foundation to go after my passion. I hope I can do the same for my children Tate and Bennett.

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I was also lucky to be part a great cohort of students. I can't imagine a group who contributed more to the program or had more fun. I'd especially like to thank Matt and Nicci who were there with me every step of the way.

Table of Contents

List of Tables

List of Figures

Abstract

The purpose of this study was to identify perceptions of environmental changes that promote self-directed learning in the workplace by Human Resources Development (HRD) practitioners and to investigate possible differences of the dependent LPA score variables to independent variables of highest level of education achieved, race/ethnicity, age, gender, position title, industry, size of the organization, and years of HRD experience.

The research used a mixed method design. Qualitative data were recorded through four focus groups until a saturation of comments was reached. Quantitative Pearson product moment correlation and ANOVA statistics were used to show the possible differences of LPA scores with each demographic variable. Tukey post-hoc tests were used to compare significant differences in mean scores of associated variables.

Focus groups were conducted with 14 Human Resources Development (HRD) practitioners to collect the top five environmental preferences that promote self-directed learning in the workplace. The environmental preferences, the Learning Preference Assessment (LPA), and the demographic form made up the survey to measure participant self-directed learning readiness across independent variables. A total of 163 participants completed the survey.

Results showed the consensus mean scores for importance of implementing environmental preferences that promote SDL in the workplace was 3.39 for other written

categories and 3.31 for organization culture encourages employees to learn on their own. The consensus mean scores for ease of implementing environmental preferences that promote SDL in the workplace was 2.53 for flexibility to work virtually with mobile access to learning and 2.16 for managers guide employees/match content to role.

Pearson product moment correlations showed no significant evidence of relationship between the continuous LPA mean scores and age variables. Group mean scores were compared for the remaining independent variables. The results were significant for the level of education and the size of the organization. Tukey post-hoc multiple comparisons tests were conducted for the differences of LPA scores and the demographic variables of highest level of education achieved and the size of organization. Only the level of education categories of high school diploma or equivalent and master's degree were found to be significant.

Chapter One

Introduction

Organizations that promote employee development and establish a structured workplace learning environment have a substantial advantage over their competitors. U.S. companies understand this model and have over the years produced a $164.2 billion annual training and development industry (Miller, 2013). However, due to rapid changes in an ever-increasing global economy, organizations struggle to develop and implement timely formal learning curricula with objectives to support the skills and knowledge needed for their staff and business to be successful. Therefore, organizations are beginning to realize the need to provide an environment that enables employees to be self-sufficient in identifying their skill gaps and pursuing learning on their own; making learning part of their job.

Although organizations have always required talented people to perform their jobs effectively, the same organizations are now recognizing the importance of maintaining an environment that supports the development of their staff and matches the pace of change in their operations. As a result, organizations are becoming more flexible in their methods of designing and implementing learning events for their employees and are relying on them to fill remaining skill gaps through self-directed learning (SDL) where individuals continually plan, conduct, and evaluate their own learning. Lee and Lai (2012) acknowledged this shift in workplace learning and noted its effort and results "should be considered as an everyday job and can be accessed at

anytime" (p. 4). In turn, organizations are held accountable to provide support for this learning method by maintaining workplace environments that encourage employees to learn on their own and hold them accountable for continually assessing their skill gaps.

The realization of SDL as a learning tool has emerged as an organizational response to meet the complex needs of the fast-paced global economy. Ellinger (2004) reported "Learners are increasingly being challenged to assume more responsibility for their own learning and development in work organizations" (p. 158). As a workplace learning solution, SDL enables employees to assume an increased accountability for their learning beyond the mandated curriculum and learning objectives provided by their company.

SDL has been an influential adult learning concept in the field of adult education for more than four decades. Merriam (2001) stated "it was Tough (1967, 1971), building on the work of Houle (1961), who provided the first comprehensive description of self-directed learning as a form of study" (p. 6). In reference to workplace learning, SDL has progressed with technology and each generation. Today's younger generation entering the workforce is tied to products of the Web and have the expectation of easily connecting with information in almost any location. As a result, access to more information, progressive use of technology, and a generation expecting to have contact with both at any time may make self-directed approaches to learning the default norm in the workplace (Hiemstra, 2003). Therefore, it is necessary to further explore the organizational requirements needed to support SDL in the workplace in order to meet the rapidly changing learning demands of employees and organizations so both may perform well in a fast-paced global economy.

Statement of the Problem

Although studies exist related to SDL and the workplace environment, there is no empirical research found that attempts to identify perceptions of environmental changes that promote SDL in the workplace by Human Resources Development (HRD) practitioners. Ellinger (2004) stated, "It has been well established in the scholarly literature that learning is a significant source of competitive advantage for organizations and that creating environments conducive to learning and development can enhance individual and organization performance (Ellinger, Ellinger, Yang, & Howton, 2002; Marsick & Watkins, 1999; Pfeffer & Veiga, 1999)" (p. 158). However, organizations struggle to keep up with the ever increasing speed of business and the half-life of knowledge employees maintain.

Accreditation standards for many professions prepare employees for continued education, not to mention the time it takes for individuals to lose half of their industry knowledge. For example, engineers work in an industry where half of what they know becomes obsolete in two to eight years (Guglielmino, 2008). Therefore, employees are increasingly being encouraged to be lifelong learners and own the responsibility for their learning. Studies have shown organizations have responded to this requirement by implementing non-traditional training methods, like SDL to meet the complex needs of change in the workplace (Park, 2008).

In its broadest definition, SDL is the initiative of a learner to analyze their learning needs, formulate learning goals, identify resources for learning, implement a learning strategy, and evaluate their learning outcomes (Knowles, 1975). The research in SDL has increased recently over the past 40 years. However, according to Brockett et al.

3

(2000), the number of SDL research articles has been steadily declining since the mid-1980s. The real challenge proposed by Brockett et al. (2000) is to take the study of SDL to a new level. One area of prevalence is enhancing SDL environments in the workplace (Park, 2008).

Related to workplace learning, lifelong self-directed learning is necessary for employee and organizational survival. The globalization of information and competition, plus the annual influx of new information is overwhelming for an organization. An enterprise cannot design and implement a formal curriculum to formally instruct employees in the time they need it. As a result, organizations struggle with the question on how to provide employees with conditions at the place of work to promote SDL (Straka, 2000)?

Most workplace learning environment studies focus on technology as an environment to encourage SDL. However, technology is a bridge to learning, providing access information and an opportunity for employees to work collaboratively or on their own. The World Wide Web generated an explosion of available information that has led to an increase of distance learning and employees gaining control of their own learning (Guglielmino, 2008). Information is the significant commodity to competitiveness; technology is the conduit to data, articles, and others with the same interests. "To remain current and competitive, it becomes necessary to engage in self-directed learning, in either autonomous or social ways, to assume responsibility for new technological developments as they enter the marketplace" (Boyer et al., 2013, p. 14).

Environments promoting SDL in the workplace improve employee and organizational success. "Studies documenting the positive relationship between job

performance and self-directed learning readiness (Durr, 1992; Guglielmino, Guglielmino, & Long, 1987; Roberts, 1986) support this assertion" (Guglielmino, 2008, p. 6). If the employee is going to be more responsible for their learning then the organization should provide an environment that helps individuals with the ability to perform SDL. Therefore, research should focus on identifying environmental characteristics that promote SDL in the workplace.

Purpose Statement

The purpose of this study was to identify perceptions of environmental changes that promote self-directed learning in the workplace by Human Resources Development (HRD) practitioners and to investigate possible differences of the dependent LPA score variables to independent variables of highest level of education achieved, race/ethnicity, age, gender, position title, industry, size of the organization, and years of HRD experience.

Research Questions

Two research questions were used to guide this study.

1. What are the participant perceptions to environmental influences that promote Self-directed Learning in the workplace?

2. What are the possible differences of LPA scores with each demographic variable (highest level of education achieved, race/ethnicity, age, gender, position title, industry, size of the organization, and years of HRD experience)?

Significance of the Study

Organizations are continually looking for ways to create environments that are conducive for learning and developing productive staff. However, in an ever-changing

5

global economy, organizations struggle to keep a competitive edge when relying only on formal learning curricula. As a result, organizations are expanding their learning techniques and relying on additional adult learning theories to deliver timely content to their employees (Kops, 1997). This includes the realization that the workplace environment should be responsive and flexible to approaches of learning that allows learners to be self-directed, especially when employee skills and knowledge become perishable and employees embrace continuous learning throughout their careers (Ellinger, 2004).

The significance of this study was to fill the research gap of examining workplace environmental changes identified by HRD practitioners to promote SDL in the workplace. It should benefit organizational leaders to make informed decisions when implementing SDL and will promote future research of SDL in a professional work environment.

Theoretical Framework

This study focused on two major contributors to SDL. Guglielmino (1977) based on her development of the Self-directed Learning Readiness Scale and Knowles the father of andragogy (Smith, 2004). Although both contributed to the theory of motivating adults to learn, each has unique perspectives on the field of SDL.

Guglielmino. Guglielmino reinforced much of Knowles' vision of SDL and supported his perspective that adults implement SDL to improve one's position and "offers a path to increased life satisfaction" (Guglielmino, 2008, p. 7). Guglielmino also further theorized the occurrences of self-directed learning by stating, "self-direction in

learning can occur in a wide variety of situations, ranging from a teacher-directed classroom to self-planned and self-conducted learning projects" (1977, p. 34).

Guglielmino developed the Self-directed Learning Readiness Scale (SDLRS) addressing three principles of context, activation, and universality. Contextually, SDL can occur in many scenarios including one's personal life, traditional classrooms, or in the workplace. Activation occurs in combination with learner characteristics and the situation. Universality it is present in each person to some degree.

Self-directed Learning Readiness (SDLR) is important to this study because it is adaptive to many scenarios including the work environment and is essentially a prerequisite for adaptive living in the new world (Knowles, 1975; Guglielmino, 1977).

Knowles. The field of adult education began to separate quickly from general education after Houle's, 1961, landmark book *The Inquiring Mind* (Zsiga, 2008). Under Houle's tutelage Knowles later introduced his concepts of adult education and the term andragogy. These theories helped to inspire adult learning research in the 1970s that led to further refinement of andragogy and SDL. Ellinger (2004) stated,

> Knowles (1975) defined SDL as a process in which individuals take the initiative, with or without the help of others, in diagnosing their learning needs, formulating learning goals, identifying human and material resources for learning, choosing and implementing appropriate learning strategies, and evaluating learning outcomes. (p. 160)

Guglielmino (1977) added to this research by producing and validating the SDLRS.

One of Knowles' core beliefs is that adults become more self-directed as they mature (Ellinger, 2004). As a result, Knowles combined his early influences to define SDL as the process-based approach for adult learners to improve their status. This includes adults taking the initiative for their learning, identifying gaps, creating goals,

finding resources, implementing a strategy, and re-evaluating the results to continue their learning (Knowles, 1975). It is clear how Knowles' foundation of adult learning translates to the workplace where learning organizations are "committed to providing engagement and support of lifelong learning for the adult employees" (Zsiga, 2008, p. 37).

Limitations

The initial participants of this study were members of the Association for Talent Development (ATD) Florida Suncoast Chapter or Research Triangle Area Chapter. The study used a snowball effect to collect more results and it may have been forwarded to others outside the two ATD chapters. ATD, formerly the American Society for Training & Development (ASTD), started in 1943 and is the world's largest organization dedicated to developing talent in companies with members in 100 countries, 112 U.S. chapters, and 12 international partners (Association for Talent Development, 2016). The ATD Florida Suncoast Chapter has been an affiliated ATD chapter since 1974, serving the needs of training and human resource development professionals throughout the Tampa Bay area (Association for Talent Development Florida Suncoast Chapter, 2016). Similarly the ATD Research Triangle Area Chapter is focused on workplace learning and performance in the Research Triangle Area of North Carolina (Association for Talent Development Research Triangle Area Chapter, 2017). Therefore, findings and generalizations from this study may not be applicable to environments outside of this professional setting.

Focus group results were only recorded by the researcher. This included summarizing the comments and collating participant feedback into themes. Self-scoring

the results of the focus groups may have included bias of the researcher and threatened internal validity of the focus group results.

Truthfulness was a concern of the study because of confidential participation. In addition, most of the participants held undergraduate or graduate degrees from institutions of higher education and were employees of business environments where there is a general belief that SDL is a positive characteristic and ultimately enhances an individual's opportunities for promotion. As a result, self-selection bias may have threatened the internal validity of the results and may have produced below average generalizability. The instructions stated that the survey was to be completed confidentially and individual responses would not be presented as part of the study.

Delimitations

The population sample was confined to 163 (*N*=163) ATD Florida Suncoast Chapter and Research Triangle Area Chapter members. It may have been forwarded to others outside the two chapters. The survey did not identify SDL as a direct or primary focus of research in order to mollify participant bias. Instead participants were told the objective of the research was to develop a greater understanding of learning preferences of groups in professional work environments.

Definitions of Terms

The following terms were used as operational definitions for this study.

Executives--a lead organizational position of each functional area in a learning

organization.

Human Resources Development practitioners--organizational positions related to the

development of employees.

Job aide--a document of information that guides an employee to perform a process or

task correctly.

Learning Organization--an organization that promotes continual learning for employees

who work collaboratively across functional areas to solve problems.

Learning Preference Assessment--an assessment instrument created by Guglielmino

(1977) to measure tendencies of individual employees to engage in SDL.

Middle management-an organizational position managing employees in each functional

area in a learning organization.

Self-directed learning (SDL)--individuals independently plan, conduct, and evaluate their

own learning.

Self-directed learning readiness (SDLR)--combination of learner attitudes, values, and

abilities that promote the likelihood that s/he is capable of SDL (Guglielmino,

1977).

Subject matter expert (SME)--a person in an organization that has authority in a specific

topic.

Talent development--an organizational position related to the development of

employees.

Trainers--an organizational position related to the facilitation of learning events to

employees.

Workplace environment for SDL--workplace location for employees to participate in

SDL.

Organization of Study

 Chapter 1 introduces the study, presenting the problem, purpose, research

questions, significance of the study, theoretical framework, limitations, delimitations, and

definition of terms. Chapter 2 introduces a review of the related literature concerning

workplace learning, SDL, SDL in the workplace, self-regulation, cognitive aspects of

SDL, social and environmental aspects of SDL, and the Learning Preference

Assessment. Chapter 3 reports the procedures utilized in this study, including the

research design, the population and sample, instrumentation, data collection

procedures, and the data analysis. Chapter 4 shares the results of the study, with the

demographic characteristics of the sample, findings for research questions, and

research practices. Chapter 5 includes the summary, discussion, conclusions,

implications, and recommendations for procedures and further research.

Chapter Two

Review of the Literature

The purpose of this study was to identify perceptions of environmental changes that promote self-directed learning in the workplace by Human Resources Development (HRD) practitioners and to investigate possible differences of the dependent LPA score variables to independent variables of highest level of education achieved, race/ethnicity, age, gender, position title, industry, size of the organization, and years of HRD experience. The parts of this chapter include the review of literature on workplace learning, SDL, SDL in the workplace, self-regulation, cognitive aspects of SDL, social and environmental aspects of SDL, LPA, and a summary.

Workplace Learning

In reviewing related workplace learning literature, there are two key concepts presented in this study. First, there is the theoretical aspect of how individuals or groups of individuals acquire, interpret, reorganize, change, or assimilate a related grouping of information. This includes the aspects of adult learning theories that align the needs of employees to acquire new skills. Second, there are the processes and outcomes of learning that employees undertake for the fulfillment of learning requirements of a particular workplace. This incorporates the concepts of the workplace environment, culture, and required formal curriculum of training. As a result, the reviewed literature benefits theorists and workplace executives who support employee

learning and the environment for learning that will help drive a competitive advantage in organizations.

The primary concept for this study was the acknowledgement that there are key elements focusing on how employees learn and the validation for above average learning techniques that foster organizational success. The review of literature presented information that adult learning theories could be one of the most effective frameworks to meet the dynamic workplace learning environment today while allowing the learner to have the freedom to adjust their avenues of learning to meet their preferences. Therefore, learning may result from a variety of sources and experiences, and can be both informal and formal. As a result, the learning being examined in the workplace is often embedded in everyday practices based on on-the-job experiences, mentoring, and formal and informal learning. The research also highlighted a conducive environment for behavior, defined in adult learning methods that should be present for most individuals to effectively learn through Knowles' adult learning theory principles, methods, and assumptions within the workplace learning environment (Holliday, 2009).

Nonetheless, according to Cappelli (2008), workplace learning also has distinguishing features from traditional adult learning theories. The first is that workplace learning is different from learning in higher education, in that, although workplace learning is collaborative, it occurs in an economic context and is driven by the individual's awareness to be professionally successful. Second, most of workplace learning is about change. This may be behavioral, attitudinal, or cognitive that requires additional flexibility by the individual to identify, adjust learning goals, and develop a path of learning that meets each area of change. Therefore, workplace learning may be

more challenging than traditional higher education for the learner when high stakes are correlated.

In summary, by reviewing workplace learning literature, there is a lack of empirical research that is directly influential in maximizing employee success outside of traditional adult learning theories and the importance of a conducive environment for learning. This study will help support related research focusing on a specific adult learning technique and how the workplace environment may be improved to positively influence workplace learning.

Self-directed Learning

Despite the lack of a universal definition, SDL has been communicated as learners having the primary responsibility for planning, carrying out, and evaluating their own learning experiences (Ellinger, 2004).

> The most common definition is that of Knowles (1975), who defined self-directed learning as a process in which individuals take the initiative, with or without the help of others, to diagnose their learning needs, formulate learning goals, identify human and material resources for learning, choose and implement appropriate learning strategies and evaluate learning outcomes. (Chakravarthi & Vijayan, 2010, p. 38)

According to Knowles (1975) there are nine major competencies of self-directed learning. These competencies include the descriptions below.

1. An understanding of the differences in assumptions about learners and the skills required for learning under teacher-directed learning and self-directed learning and the ability to explain these differences to others.
2. A concept of oneself as being a non-dependent and self-directed person.
3. The ability to relate to peers collaboratively, to see them as resources for diagnosing needs, planning one's own learning, and learning; and to give help to them and receive help from them.
4. The ability to diagnose one's own learning needs realistically, with help from teachers and peers.
5. The ability to translate learning needs into learning objectives in a form that makes it possible for their accomplishment to be assessed.

14

6. The ability to relate to teachers and facilitators, helpers, or consultants, and to take the initiative in making use of their resources.
7. The ability to identify human and material resources appropriate to different kinds of learning objectives.
8. The ability to select effective strategies for making use of learning resources and to perform these strategies skilfully and with initiative.
9. The ability to collect and validate evidence of the accomplishment of various kinds of learning objectives. (p. 61)

One of Knowles' core beliefs is that adults become more self-directed as they mature. For adults, this means they are more in control of their learning as they grow older with a desire to learn specific content or acquire a specific skill.

Tough (1971) also proposed a linear approach to SDL from his study of adult learning projects. Tough defined learning projects as deliberate efforts to gain new knowledge or skills and almost everyone engages in one or two learning projects a year with as many as 15-20. The projects can be aligned to gain general knowledge or understanding of a topic while others are designed to improve a specific skill or performance. In relation to adult learning theories, most projects are initiated for very practical reasons, like learning new information for the workplace, and are self-directed in nature.

As a result, Tough stated 70% of all adult learning projects used 13 steps to achieve decision-making points. First, learners must decide what knowledge to learn, follow identifying specific activities, methods, and resources that are needed. This is followed by where to learn, immediate deadlines or targets, and when to begin. Next they will identify the correct pace, their current knowledge level and desired end level, plus any factors that are hindering their current process for closing their knowledge gap of required skills. After, learners re-evaluate their needs and inefficiencies, obtaining

the proper resources or equipment, adapting physical environments for learning, nonhuman resources, time, and taking extra steps to increase motivation.

In relation to the reviewed articles, there are references of corporate employees needing to be proficient self-directed learners. Hoban et al. (2005) performed a study about professionals in the medical field to determine their need to be self-directed learners as their hypothesis included self-directedness and lifelong learning are invaluable characteristics to medical professionals. The researchers contended that technical content in this field is constantly changing; therefore, learners with high levels of self-efficacy can maintain their motivation, address their knowledge gaps, and re-evaluate their progress to excel in their field.

Chu and Tsai (2009) noted adult learners bring their life experiences to learning events and it is important for adult learners to have the opportunity to maintain a self-directed approach to their learning. In their empirical article, they discussed this should be conducted independent of the learning environment. Dynan, Cate, and Rhee (2008) supported the idea that institutions of higher education should identify the best methods for designing environments and curriculum with the appropriate learning tools to be conducive to their adult learners' characteristics, self-efficacy, and willingness to learn. They proposed a research question to find if employees score measurably higher on Guglielmino's LPA in a structured or unstructured learning environment. They understood SDL readiness as a skill possessed by adult learners and, if applied successfully, can lead employees to become lifelong learners. However, they wanted to confirm if SDL was dependent on learners participating in a structured environment planned by their organization or one that was unstructured and left to the individual to

preserve. Similarly, King (2004), in her article examining professional development of educators, stated that engaging individuals in an active learning role, by bringing their experiences to the learning event, can have positive effects on their acquisition of knowledge and skills. "This strategy can potentially form a basis for increased self-directed lifelong learning beyond any formal development activity" (King, 2004, p.171).

In comparison, Lema and Agrusa (2006) focused on the relationship of SDL to productivity in the workplace. They studied the role of self-efficacy and industry experience to learning in the hospitality industry. Specifically they researched the role of SDL readiness as it relates to employee productivity and their accountability for individual performance. For example, they wanted to find if an individual's motivation to adapt to organizational change and their ability to succeed is based on their aptitude to be self-directed learners.

In summary, this section reviewed several definitions of self-directed learning regarding an academic perspective and others related to productivity in the workplace. However, each referred to a commonality of improving one's performance by having motivation to address their knowledge gaps, continually re-evaluating their ability, and implementing appropriate learning strategies to achieve their learning goals.

Self-directed Learning in the Workplace

A large portion of adult learning is focused on acquiring skills, experience, and understanding within the workplace, which often lay outside the formal classroom. This is especially true for organizations that compete in a high-paced global economy, where textbooks and curriculums cannot maintain the pace of learning needs, and workers jobs change dramatically every five years. The rapid evolution of markets and

technologies create the obsolescence of documented learning at an increasing rate and, therefore, fuels a continual need for updating current skill sets of employees. Sze-yeng and Hussain (2010) stated

> The 21st century is characterized by the ubiquitous forces of globalization, which drives the existing knowledge driven economy, the inter-connectivity and digital revolution. Survival skills become obsolete over a couple of years due to the decreasing half-life of knowledge. This would mean that what is taught in formal institutions of learning have to be unlearnt and re-learnt over the years. Individuals need to be committed to lifelong learning and this is only possible if individuals are motivated with self-directional skills. (p. 1913)

HRD professionals have recognized the opportunity to direct their attention to SDL when learning is identified as an appropriate performance improvement intervention. In addition, Guglielmino and Murdick (1997) stated, SDL has saved leading U.S. companies 20-50% of their formal training budgets. If organizations are expected to continually advance the performance of their staff and be responsible to achieve their results at the lowest cost possible then they should continue to explore and examine how fostering SDL efforts contribute to the learning and development process of their employees.

However, traditionally companies struggle to find the most effective and efficient approach for providing their employees with the needed skills to succeed and they invest money and employee resources to develop formalized curriculum, but find employees who are successful and promotable improve their skill sets on their own through SDL efforts. "Given the trends toward self learning and self development and the growing importance of the workplace as an environment for learning, an understanding of SDL can enhance human resource development" (Ellinger, 2004, p. 158).

Tobin (2000) identified SDL in the workplace as an emergent theme in research. More specifically, Keirns (1999) suggested a renewed emphasis on SDL as a means for development, with or without direct leadership direction due to the eminence of computer-based or distance learning and hypermedia-driven content.

Avdal (2013) stated individuals with the ability to apply SDL techniques can use their knowledge and skills in a variety of situations in order to continue to enhance their ability to learn new skills throughout their life time. It was also suggested that the benefits of implementing SDL produces increased assertiveness, independence, motivation, and effective use of information. This is important for workplace learning because SDL provides the opportunity to improve capacity and increase learning motivation outside traditional classrooms. For example, healthcare professionals working in ever-changing and complex social and technical systems face a serious challenge for owning their own learning and frequently refreshing their competencies. This principle is known as life-long learning, which is closely linked to SDL. Therefore, it is critical for organizations to understand how much professionals can learn themselves in order for companies to individualize teaching/learning and their overarching curriculum strategies.

Guglielmino and Guglielmino (1983) studied a sample of 753 individuals in an American utility corporation and found positive correlations between job performance and SDLR with outstanding performers having the highest SDLRS scores. Roberts (1986) studied a Hong Kong Telephone Company and found a significant relationship between SDLR and manager's performance ratings.

In summary, SDL in the workplace is an emerging theme in research for individual development with or without leadership support. SDL is also increasingly important in fields where competencies need to be refreshed frequently.

Self-regulation

Lajoie (2008) defined self-regulation as an individual's "mechanisms for checking the outcome, planning, monitoring effectiveness, testing, revising, and evaluating strategies" of their learning (p. 470). Learners self-regulate their thoughts, feelings, and actions to attain goals through three theories important to this study. First, learners can improve their ability to learn through selective metacognitive and motivational strategies. Internal and external feedback is one set of examples. Each variance of feedback helps to monitor and evaluate performance that can enhance a learner's effectiveness while engaged in tasks. Second, learners can proactively create supportive learning environments. For example, computers can act as cognitive tools in SDL by stimulating the mind and providing external constraints or scaffolds to guide learning of new information and allowing individuals to learn on their own. Third, learners can select the level of instruction that will help them succeed. In the professional workplace, engagement in SDL is viewed as a highly desirable goal for employees because it is a requisite for continuous development.

In summary, this section defined self-regulation as the ability for checking outcomes, monitoring effectiveness, and revising strategies for success. Therefore, self-regulation is a key aspect of SDL for attaining learning objectives goals. Finally, this section included three theories of self-regulation based on metacognitive and

motivational strategies, supportive learning environments, and selecting the correct level of instruction.

Cognitive Aspects of Self-directed Learning

Adult learning is an internal cognitive process specific to the learner. It is what the learner does in a teacher-learner transaction, as opposed to what the educator does (Merriam & Brockett, 2007). Therefore, for an adult learner, cognitive involvement necessitates learning. In relation to this study, it is imperative to review the impact of the cognitive processes influencing the learner to choose strategies that promote the acquisition of new knowledge.

Jarvis, a major contributor to lifelong learning in the field of adult education, embraced learning as part of our human existence (Bagnall, 2017). He described nine characteristics of the self-directed learner as follows:

1. Decision to learn: The learner is motivated to respond to a perceived need or want to learn.
2. Type of participation: Learners decide between learning independently, learning through organized activity, or some combination.
3. Aims and objectives: Learners choose between learner control, control by others, or negotiated aims and objectives.
4. Content: Learners make a decision regarding the selection of content.
5. Method: The methodological processes engaged in by the learner.
6. Thought/Language: The mode of speech, thought, perception, and so forth, engaged in by the learner.
7. Assessment: The process of evaluating how much individuals have learned, whether their needs or wants have been satisfied, and whether learners have achieved their aims and objectives.
8. Disjuncture: Acting on a perceived need or want precedes the learner's learning process.
9. Action/Outcome: Learner's evaluation of the results. (Jarvis, 1992)

In addition, the development of cognitive strategies is critical within the SDL process and adult learners, with clear indication that learners become better at using cognitive strategies with age and experience.

In summary, cognitive involvement is imperative for adult learners, because it necessitates how the individual learns. In respect to this study, the cognitive process affects the individual to choose strategies that free up cognitive resources and enable the ability for higher-level learning. Finally, this section related nine characteristics of self-directed learners that are reflective of cognitive strategy.

Social and Environmental Aspects of Self-directed Learning

Long (2000) stated SDL is a behavior that is explained as a psychological construct managing observable cognitive and personality traits in nurturing conditions. For a learner's level of SDL to flourish, they must possess the motivation and ability to learn and also interact in an environment promoting opportunities for SDL. In regards to this study, it will not only focus on an individual's motivation and cognitive ability to learn in a professional workplace, but measure the social impact and environmental influence on the learner as well.

The cognitive aspect of learning is the interaction between the mind and environment that represents the most influential nature of learning. Metacognition emphasizes how the mind triggers evaluations for important decisions and, with self-regulation, focuses on how the environment influences responses (Lajoie, 2008). Therefore, it is the management of cognitive load levels produced by the mind and the complexity of a learning environment that can improve an individual's ability to learn. For example, organizations with complex learning environments have a tendency to design learning around real-world experiences in order for the individuals to transfer new knowledge to similar situations. However, van Merrienboer and Sluijsmans (2009) stated there is a risk to this approach as the level of cognitive load imposed by specific

learning events can be deemed excessive for novice learners and may in turn inhibit

learning. For this reason, there is a need to identify levels of cognitive loads and

techniques that can improve opportunities for learning in complex, workplace learning

environments.

Van Merrienboer and Sluijsmans acknowledged three cognitive loads in their

article. They included, "intrinsic cognitive load, which is determined by the complexity of

the learning tasks . . .; extraneous cognitive load, which is caused by suboptimal

instructional design . . . and germane cognitive load which is caused by appropriate

instructional design" (2009, p. 56). Since all three are related to instructional design, it

is easy for an organization to think manipulating this learning development technique is

an effective solution to managing cognitive load and improving the learning

environment. One example is to order tasks from simple to complex and gradually

increase the number of interacting elements of each learning task or the use of

scaffolding to prevent effects of extraneous load and decrease the level of support for

the learners as they gain more expertise. However, by focusing on lower level learners

in a complex learning environment the tendency is to sequence the tasks for the whole

group with no room for flexibility and little chance for SDL. As a result, it is "difficult for

learners to (a) take full responsibility for performing learning tasks, (b) assess the

strengths and below averagenesses in their own performance, and (c) select learning

tasks that offer the best opportunities to remediate below averagenesses and improve

performance" (van Merrienboer & Sluijsmans, 2009, p. 56). Therefore, it is important to

enable learning environments within organizations to promote SDL and allow individual

learners to diagnose their learning needs, formulate learning goals, identify human and

material resources for learning, choose and implement appropriate learning strategies and evaluate learning outcomes" (Chakravarthi & Vijayan, 2010, p. 38).

In summary, several studies were published communicating that the use of SDL has a positive correlation with desirable workplace performance results. Previously reviewed research indicated SDL readiness plays a major role in predicting adults' traits for learning. Drivers include motivation and self-regulation, cognitive strategies, and social and environmental elements.

Learning Preference Assessment

Self-directed learning readiness scores were measured by the LPA instrument. The instrument was developed by Guglielmino (1977) as the Self-directed Learning Readiness Scale (SDLRS) as part of her dissertation. It changed its name in 1991 from SDLRS to LPA to avoid possible response bias. The LPA is currently the most widely used instrument to measure self-directed learning (Guglielmino & Associates, LLC, 2016a).

The instrument was designed to measure the participant's perceived readiness for self-direction in learning. The latest version of the LPA has 58 items and is scored on a five-point Likert scale. The scale defines 1 as "almost never" through 5 as "almost always." The instrument also categorizes the items into eight factors:

1. Openness to learning opportunities,
2. Self-concept of an effective learner,
3. Initiative and independence in learning,
4. Informed acceptance of responsibility for one's own learning,
5. Love of learning,
6. Creativity,
7. Positive orientation to the future, and
8. Ability to use basic study skills and problem-solving skills. (Guglielmino, 1977, p. 62)

A list of characteristics of highly self-directed learners emerged from the Delphi Study that formed the basis of the instrument. The most-used operational definition for self-directed learning was cited by Guglielmino and Guglielmino (2008).

> A highly self-directed learner. . . is one who exhibits initiative, independence, and persistence in learning; one who accepts responsibility for his or her own learning and views problems as challenges, not obstacles; one who is capable of self-discipline and has a high degree of curiosity; one who has a strong desire to learn or change and is self-confident; one who is able to use basic study skills, organise his or her time and set an appropriate pace for learning, and to develop a plan for completing work; one who enjoys learning and has a tendency to be goal-oriented. (p. 295)

It is the most adopted survey instrument for measuring SDL readiness (Merriam & Brockett, 2007). Guglielmino and Associates, LLC (2016b) stated LPA scores are categorized into three levels: below average (58–201), average (201–226), and above average (227–290). The prevalent use of LPA has shown stable reliability and validity. It has been translated into 22 languages and implemented in more than 40 countries.

Summary

A thorough review of literature examined two integral components of this study. They were (a) SDL in the workplace and (b) social and environmental factors of SDL. There are numerous research studies focused on SDL in the workplace and its ability to help build employee skills efficiently and effectively. This becomes even more important in the 21st century where organizations compete in a fast-paced global economy outpacing their ability to build formal curriculum to meet employee learning needs. However, according Foucher and Tremblay (1993) corporations do not fully support SDL proportionally to the types of learning in corporate settings. They found 80% of learning is informal while 80% of training budgets are directed to formal training events.

Therefore, there is a need for HRD professionals to further support SDL and make it easier to implement in learning organizations.

Numerous research studies also focused on the social and environmental factors of SDL. Mishra, Fahnoe, and Henriksen (2013) stated a majority of current research focuses on internal characteristics of SDL, but gradually external factors have an impact as well. In addition, Park (2008) found supportive organizational culture, willingness of learners to participate in SDL, and accessibility of subject matter expertise influences can affect the impact of SDL positively and negatively.

Therefore this study addressed some of the major research gaps over the past 40 years by specifically examining environmental changes identified by HRD professionals that will promote SDL in the workplace (Brockett et al., 2000). SDL has been an influential topic of adult education since the 1970s. However, trends in SDL in the workplace has increased in importance as a means to build a structured workplace learning environment and provide an advantage to an organization by enhancing individual and organizational performance (Park, 2008). The result of this study should benefit executives when implementing SDL in their organization.

Chapter Three

Methods

The purpose of this study was to identify perceptions of environmental changes that promote self-directed learning in the workplace by Human Resources Development (HRD) practitioners and to investigate possible differences of the dependent LPA score variables to independent variables of highest level of education achieved, race/ethnicity, age, gender, position title, industry, size of the organization, and years of HRD experience. This chapter presents the research design, population and sample, instrumentation, data collection procedures, and data analysis.

Research Design

The research used a mixed method design. Qualitative data were recorded through four focus groups until a saturation of comments was reached (Krueger & Casey, 2009). Descriptive statistics were used to tabulate and describe the sets of data. Quantitative Pearson product moment correlation and ANOVA statistics were used to show the differences in LPA scores with each demographic variable (Glass & Hopkins, 1996). Then Tukey post-hoc tests were used to compare significant differences in mean scores of associated variables.

Research questions. Two research questions were used to guide this study.

1. What are the participant perceptions to environmental influences that promote Self-directed Learning in the workplace?

2. What are the possible differences of LPA scores with each demographic variable (highest level of education achieved, race/ethnicity, age, gender, position title, industry, size of the organization, and years of HRD experience)?

Population and Sample

The initial target population for this study included members of the Association for Talent Development (ATD) Florida Suncoast Chapter and Research Triangle Area Chapter. The survey may have been forwarded to others outside the two chapters. ATD, formerly the American Society for Training and Development (ASTD), started in 1943 and is the world's largest organization dedicated to developing training in companies. Over the years, ATD has evolved to include a broader scope of the training profession servicing public and private organizations in 120 countries with 112 local chapters (Association for Talent Development, 2016).

The Florida Suncoast Chapter and the Research Triangle Area Chapter are part of the national affiliation of ATD. The chapters' approximately 500 members are reflective of ATD's 70,000 worldwide membership and consist of practitioners focusing on workplace performance issues (Association for Talent Development Florida Suncoast Chapter, 2016). The study used a snowball effect as the sampling technique to acquire participants from each chapter and draw a sample from the very large, geographically dispersed population of US HRD practitioners (Gall et al., 2007). The target sample size with a minimum of 144 participants was based on the G*Power and effect size analysis. Given the effect size of 0.4, a smaller sample size could be used. The error probability was selected at 0.05 and power at 0.95.

The total population collected for this study was 163 members ($N = 163$). For the purpose of this study, the sample was defined by highest level of education achieved, race/ethnicity, age, gender, position title, industry, size of the organization, and years of HRD experience.

Instrumentation

Four sources were used to collect data. The first source, focus groups, was used to identify commonly shared preferences of workplace environment changes that promote self-directed learning in the workplace. The second source was the preference form that included a collection of the most commonly recorded preferences from the focus groups related to workplace environmental changes that promote self-directed learning in the workplace. The third source was the demographic form used to collect the highest level of education achieved, race/ethnicity, age, gender, position title, industry, size of the organization, and years of HRD experience. The fourth source was the LPA. The encompassing survey included a combination of the preference form to record commonly shared preferences of workplace environment changes, the demographic form, and the LPA. The following paragraphs provide additional detail for each source.

Focus group study. According to Krueger and Casey (2009), the intent of focus groups is not to infer but to understand and "to provide insights about how people perceive a situation" (p. 66). Heterogeneous focus groups by industry were conducted to receive the widest range of comments and a deeper understanding of their preferences for environmental changes to promote SDL in the workplace (R. Krueger, personal communication, June 21, 2016). Based on Krueger and Casey (2009)

recommendations, the focus groups consisted of small groups of 4-5 participants. Four

focus groups were conducted until a saturation of comments was recorded. Limiting the

number of participants allowed the moderator to best manage the group that shared

interests and lengthy experiences on the topic. The target sample population

maintained the focus group's purpose. The focus group participants were all HRD

practitioners and members of the Florida Suncoast Chapter or Research Triangle Area

Chapter of ATD. See Appendix A for a copy of sample focus group teleconference

invitation and confirmation email for the focus group.

The preference form included the most common recorded preferences of

workplace environmental changes to promote SDL in the workplace from the focus

groups. See Appendix B for a sample preference form. Qualitative data were collected

through four focus groups until a saturation of shared preferences of workplace

environmental changes that promote SDL in the workplace was reached. The focus

groups consisted of 4-5 HRD practitioners who were members of the ATD Florida

Suncoast Chapter or Research Triangle Area Chapter. Invitations to participate in the

focus groups may have been forwarded to others outside the two ATD chapters. The

focus groups identified the participants' preferences of workplace environmental

changes that promote SDL in the workplace. These suggestions were then added to

the survey for the participants to record their preferred environmental change for SDL.

Focus groups were primarily conducted online where expedient. The majority of

focus groups had small groups of participants meet face to face while they were

facilitated virtually. Only one focus group was facilitated face to face with all participants

in one room. Focus groups included a total of 14 people with HRD experience in

multiple industries including the US military, technology, hospitality, non-profit, higher education, financial services, professional services, and the Peace Corps. The opening question asked participants to state what currently works or does not work to promote SDL in their workplace. Table 1 indicates the recorded environmental characteristics that the focus group participants identified as top promoters and discouragers of self-directed learning in their current workplace.

The researcher used a quantitative procedure to define the top five values of the preference form by frequency rather than a qualitative process of transcribing the focus group participant feedback. The results were then summarized by theme by the researcher and the full list of promoters and discouragers are presented in Table 1 the number of times each item was recorded in parentheses. For example, the promoter, flexibility to work virtually with mobile access to learning (10) was a theme recorded 10 separate times during the four focus groups.

After a saturation of themes were recorded Table 1 was presented to the study committee members to help define the themes to be included in the preference form of the survey. As a result, the committee members recommended using the top five most frequently recorded themes. Although there was a natural break of frequency after the first seven themes, there was agreement by all committee members to use the first five promoters to control the number of items. Therefore the first five promoters were used in the survey for participants to rank the level of importance and the ease of implementation for supporting self-directed learning in the workplace for each of the identified items.

Recording procedures. Focus groups were conducted via telephone conference calls. In accordance with Krueger and Casey (2009), an invitation was delivered via email to reserve one hour of the participant's time along with a conference number and email address for reply. A confirmation email was sent prior to the focus group, noting the time, recognition that the call will be recorded, and the ground rules to be followed (see Appendix A). According to R. Krueger (personal communication, June 6, 2016), although in-person focus groups are the ideal choice, telephone focus groups are a reasonable substitute and have advantages over in-person sessions that help control resources and time limitations that inhibit the implementation of in-person focus groups.

The focus groups began with a short welcome statement, an overview of the topic, and ground rules to follow throughout the focus group. Then there was a short explanation of the informed consent procedures in compliance with the IRB Board of the University of South Florida to ensure the researcher was addressing ethical issues as outlined by Lipson (1994) to inform participants of the procedures, help to eliminate deception or covert activities, and establish confidentiality. Participants were reminded that the session was recorded for the purposes of data collection and assigned numbers to participant aliases to protect their confidentiality. This also ensured that the developed results of the focus group represented a composite of the group rather than individual contributions. Focus group data were stored on a password protected laptop after the completion of this study in compliance with the IRB Board of the University of South Florida. The opening question to promote participation was for each participant to identify what currently worked, or did not work, in their workplace to promote SDL.

Table 1

Promoters and Discouragers of Current Workplace Environmental Characteristics

Promoters	Discouragers
1. Flexibility to work virtually with mobile access to learning (10)	1. Dated library, no curators, no direction of content (12)
2. Designated library for information curated by managers & peers (9)	2. Unable to schedule time in workday, no time in the day (3)
3. Organization culture encourages employees to learn on their own (6)	3. Learner fatigue (3)
4. Monetary commission/Reward (5)	4. Firewalls restricting access and devices (2)
5. Managers guide employees/Match content to role (5)	5. Increased workload (2)
6. Ability to easily connect with teammates/SMEs (4)	6. Translations not available (1)
7. Access to job aides (4)	7. Dispersed teams across multiple time zones impede quick access to information (1)
8. Access to the internet to view YouTube videos (3)	8. Too long to review long documents for small amount of information needed (1)
9. Ability to connect with co-workers inside & outside work hours (2)	
10. Job shadowing and mentoring (2)	
11. Ability to attend blended conferences (2)	
12. Ability to work together in cubes (1)	
13. Seeking out leaders for learning (1)	
14. Affinity groups – women in leadership, book groups, networking in the industry, cultural groups (1)	
15. Community sharing (1)	
16. No competition between peers (1)	
17. Virtual budging system to find experts (1)	
18. Kiosks in break room(1)	
19. Used common area as quiet location to plan out learning & asked supervisor for money to take course(s) (1)	
20. Access to cohort groups (1)	
21. Access to common use cases (1)	
22. Message boards (1)	

Note. N = 14

Preference form. The preference form was a listing of the top five most popular

recorded preferences for workplace environmental changes that would help to promote

SDL in the workplace from the four focus groups. In the survey, participants were also

able to enter another suggestion, in the last field of the performance form, if they did not

agree with those provided (see Appendix B).

Demographic form. The demographic form listed the highest level of education

achieved, race/ethnicity, age, gender, position title, industry, size of the organization,

and years of HRD experience. See Appendix C for a copy of the demographic form.

Recording procedures. The preference form and demographic form were

combined and added as part of the survey with the LPA. Then the encompassing

survey was deployed to participants via Qualtrics. Two five-point Likert scales were

used to collect values from the preference form. Participants were asked to rank the

importance and ease of implementation for each of the preferences for workplace

environmental changes that would help to promote self-directed learning in the

workplace. The Likert scale for importance recorded a value of 1 for "extremely

important" through 5 for "not at all important." Similarly the Likert scale for ease of

implementation recorded a value of 1 for "extremely easy to implement" through 5 for

"slightly difficult to implement." An option was also provided to participants to add their

own suggestions and rank each item for the level of importance and ease of

implementation. Mean scores were calculated for importance and ease of

implementation as consensus ranking of workplace environmental changes that would

help to promote self-directed learning in the workplace.

The Likert scale scores for importance and ease of implementation were reverse

scored for analysis purposes so positive levels in Figure 1 would be represented with

higher scores for extremely important and extremely easy to implement. Therefore, the

mean scores were calculated and then subtracted from five to produce the scores

represented in Figure 1.
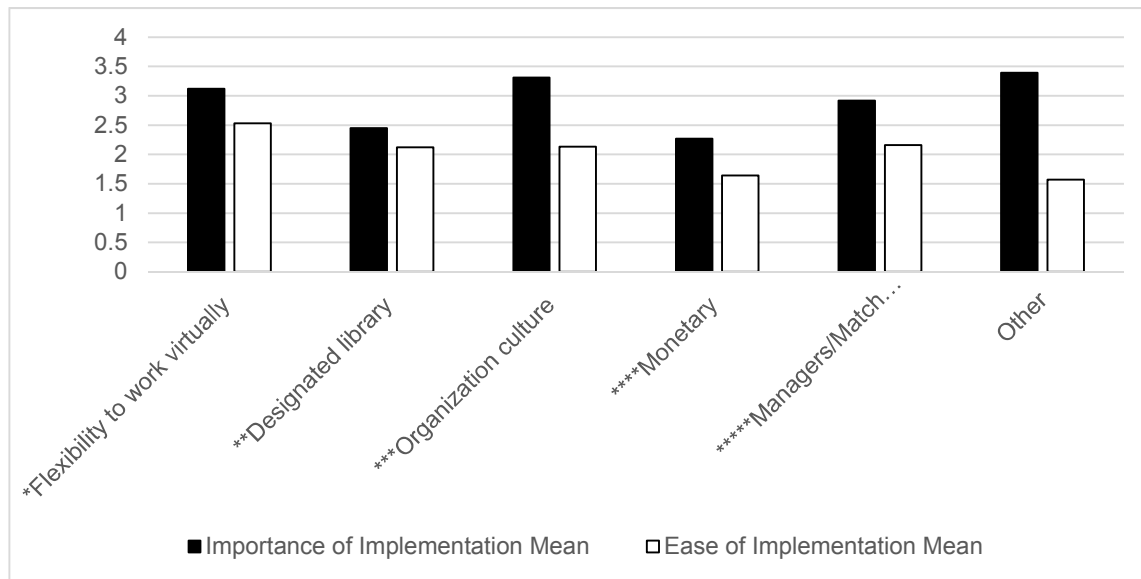
Figure 1. The comparison of the importance and ease of implementing environmental
preferences that promote SDL in the workplace.
*Flexibility to work virtually with mobile access to learning
**Designated library for information curated by managers & peers
***Organization culture encourages employees to learn on their own
****Monetary commission/Reward
*****Managers guide employees/Match content to role

Participants chose appropriate items in the demographic form from a list for

highest level of education achieved, race/ethnicity, age, gender, position title, industry,

size of the organization, and years of HRD experience. Participants could also add their

own answers for highest level of education, race/ethnicity, position title, and industry if

they preferred. Individual responses from the Qualtrics survey were recorded and

populated into a spreadsheet once the survey was completed.

Learning Preference Assessment (LPA). The LPA identified participant self-

directed learning readiness (SDLR) scores. The instrument was developed by

Guglielmino (1977) as the Self-directed Learning Readiness Scale (SDLRS) as part of

her dissertation. The name changed from SDLRS to LPA in 1991 to avoid possible

response bias (Guglielmino & Associates, LLC, 2016c). It is currently the most widely

used instrument to measure self-directed learning (Guglielmino & Associates, LLC,

2016a).

The instrument was designed to measure the participant's perceived readiness

for self-direction in learning. The latest version of the LPA has 58 items and is scored

on a five-point Likert scale. The scale defines 1 as "almost never" through 5 as "almost

always. Scores are expected to range from 58 to 290. Scores closer to 290 suggest

participants are highly self-directed learners while scores closer to 58 suggest

participants may require direct instruction when involved in learning (Guglielmino &

Associates, LLC, 2016b). Guglielmino (1977, 2016a) only recommends using total

scores for each individual as a continuous variable in research. See Appendix D for a

sample copy of the LPA form.

Validity and reliability of Learning Preference Assessment. Content validity

was established with an expert panel during the development of the instrument utilizing

the Delphi technique (Guglielmino, 1977). Criterion validity was also established

through 23 item total analysis. Reliability estimates are generally above average across

all studies. "Based on a population of 3,151 individuals from the United States and

Canada, a split-half Pearson product moment correlation with a Spearman-Brown

correction produced a reliability coefficient of .94 (Guglielmino & Guglielmino, 1991)"

(Guglielmino & Associates, LLC, 2016b).

There has been debate over the SDLRS's content validity in the literature. Nonetheless, Guglielmino and Associates (2016a) stated on their website that the most recent review of the SDLRS/LPA by Delahaye and Choy in 2000 stated the LPA can be used with confidence as an accurate measurement tool for self-directed learning readiness. Therefore, the LPA instrument was an appropriate instrument for this study with appropriate validity and reliability.

Data Collection Procedures

An email link of the survey was sent to members of the ATD Florida Suncoast Chapter and Research Triangle Area Chapter via Qualtrics. All respondents were voluntary. The survey included a brief paragraph of instruction followed by the preference form, the demographic form, and the 58 questions of the LPA. Individual responses were collected in Qualtrics then exported into a spreadsheet for analysis once the survey was completed. Millar and Dillman (2011) stated in their research for improving response rates to web surveys that offering different modes for participant response sequentially, Web first and postal or email as a follow-up option, "improves Web response rates" (p. 249). Therefore, follow-up emails with links to the survey were sent every 10 days after the initial survey. In addition, instructions included the purpose of the survey to provide additional insight into how employees learn new information and skills in a workplace setting in order to reduce bias results when participants complete the survey. The results were confidential and there were specific instructions to submit the survey online.

Data Analysis

The purpose of this study was to identify perceptions of environmental changes that promote self-directed learning in the workplace by Human Resources Development (HRD) practitioners and to investigate possible differences of the dependent LPA score variables to independent variables of highest level of education achieved, race/ethnicity, age, gender, position title, industry, size of the organization, and years of HRD experience. Accomplishing this purpose involved three stages: (a) the identification of workplace environmental changes that promote SDL in the workplace, by focus group, of HRD practitioners, (b) the total counts of the identified workplace environment changes preferences by importance and ease of implementation, and (c) the investigate possible differences of LPA scores to demographic variables (i.e., highest level of education achieved, race/ethnicity, age, gender, position title, industry, size of the organization, and years of HRD experience).

This research study utilized a mixed methods design. Focus groups were administered via teleconference or face to face where expedient to collect the top five examples of environmental preferences to promote SDL in the workplace. This was accomplished by facilitating small groups of 4-5 individuals with different HRD positions until a saturation of information was recorded. A demographic form was also created to collect participant variables of highest level of education achieved, race/ethnicity, age, gender, position title, industry, size of the organization, and years of HRD experience. Lastly, the 58-item LPA survey was added to collect participant SDLR scores.

First, the 58-item LPA section of the survey completed by 163 participants was sent to Guglielmino and Associates, LLC to calculate the mean, standard deviation,

variance, range, standard error, kurtosis, and minimum and maximum scores for the independent variables of participant birth year, gender, education, and race/ethnicity. Guglielmino and Associates, LLC used SPSS version 24.0 statistical package. Data were analyzed using descriptive statistics.

Second, the complete survey results completed by 163 participants including the performance form, demographic form, and the 58-item LPA survey, were collected by Qualtrics and then downloaded into a spreadsheet and scored by the researcher. The data were analyzed using SPSS version 24.0 statistical package. Descriptive statistics were used to analyze the mean, standard deviation, variance, range, standard error, scatter plot, minimum and maximum scores for the dependent variables of environmental preference and individual LPA scores. The independent variables included highest level of education achieved, race/ethnicity, age, gender, position title, industry, size of the organization, and years of HRD experience.

Descriptive statistics were used to tabulate and describe the sets of data. Quantitative Pearson product moment correlation and ANOVA statistics were used to show the differences of LPA scores with each demographic variable (Glass & Hopkins, 1996). Tukey post-hoc tests were used to compare significant differences in mean scores of associated variables. Statistics were generated using SPSS statistical software version 24.0. A brief explanation of the data analysis follows each research question below.

1. What are the participant perceptions to environmental influences that promote Self-directed Learning in the workplace? This question was answered by using descriptive statistics to report the number of similar responses by preferences of most

important to be implemented and ease of implementation to promote SDL in the workplace.

    2. What are the possible differences of LPA scores with each demographic variable (highest level of education achieved, race/ethnicity, age, gender, position title, industry, size of the organization, and years of HRD experience)? This question was answered using Pearson product moment correlations for continuous LPA Scores and age. ANOVA statistics were used to report the group mean differences of the learning preference scores by each remaining demographic variable (highest level of education achieved, race/ethnicity, gender, position title, industry, size of the organization, and years of HRD experience). Then Tukey post-hoc tests were used to determine where significant differences in mean scores of associated variables existed.

    Variables. The dependent variables were environmental preference selections and individual LPA scores. The remaining independent categorical variables were the highest level of education achieved, race/ethnicity, age, gender, position title, industry, size of the organization, and years of HRD experience. The demographic variables were categorical and divided into multiple levels. The highest level of education achieved ranged from associate or technical degree to doctoral degree. Race/ethnicity ranged from Asian or Pacific Islander, Black, Hispanic, non-Hispanic/White, or Other. Gender was recorded as male or female. Position titles ranged from executives, middle management, talent development, trainers, and other. The size of the organization was recorded as 0-100 employees, 101-1,000 employees, 1,001-5,000 employees, 5,001-10,000 employees, 10,001-30,000 employees, and 30,001+. Years of HRD experience ranged from 1-65. Descriptive statistics were used to report the dependent variable of

environmental preferences by most important to be implemented and ease of implementation to promote SDL in the workplace. The Pearson product moment correlation was used to compute the relationship of continuous LPA scores and age. Analysis of Variance (ANOVA) tests were used to report the group mean differences of the learning preference scores by highest level of education achieved, race/ethnicity, gender, position title, industry, size of the organization, and years of HRD experience. Tukey post-hoc tests were used to compare significant differences in mean scores of associated variables.

Chapter Four

Findings

The purpose of this study was to identify perceptions of environmental changes that promote self-directed learning in the workplace by Human Resources Development (HRD) practitioners and to investigate possible differences of the dependent LPA score variables to independent variables of highest level of education achieved, race/ethnicity, age, gender, position title, industry, size of the organization, and years of HRD experience. This chapter presents the descriptive characteristics of the sample, findings by research question, post-hoc tests, research practices, and a summary.

Demographic Characteristics of the Sample

The target population for this study included the members of the Association for Talent Development (ATD) Florida Suncoast Chapter and Research Triangle Area Chapter. ATD, formerly American Society for Training and Development (ASTD), started in 1943 and is the world's largest organization dedicated to developing training in companies (Association for Talent Development, 2016). The total number of participants was 163 professionals. The survey was initially distributed to members of both chapters of ATD; however, it may have been forwarded to others outside the chapters, so participants may have included other individuals who were not specifically members of the ATD chapters. Appendix C outlines the collected demographic information by independent variables of highest level of education achieved,

race/ethnicity, age, gender, position title, industry, size of the organization, and years of HRD experience.

      Table 2 presents the numbers and percentages of the participants by highest level of education achieved and race/ethnicity. For the highest level of education achieved, there were a total of 163 participants: 7 (4.3%) were high school diploma or equivalent, 6 (3.7%) were associate or technical degree, 30 (18.4%) were bachelor degree, 12 (7.4%) were some graduate level, 76 (46.6%) were master's degree, 27 (16.6%) were doctoral degree, and 5 (3.1%) were other. For race/ethnicity, there were a total of 163 participants: 7 (4.3%) were Asian or Pacific Islander, 19 (11.7%) were Black, 15 (9.2%) were Hispanic, 108 (66.3%) were Non-Hispanic/White, and 14 (8.6%) were other.

Table 2

Number and Percentages of Participants by Level of Education and Race/Ethnicity

Variable	Category	*n*	%*
Level of education			
	High school diploma or equivalent	7	4.3
	Associate or technical degree	6	3.7
	Bachelor's degree	30	18.4
	Some graduate level	12	7.4
	Master's degree	76	46.6
	Doctoral degree	27	16.6
	Other	5	3.1
	Total	163	100.1
Race/ethnicity			
	Asian or Pacific Islander	7	4.3
	Black	19	11.7
	Hispanic	15	9.2
	Non-Hispanic/White	108	66.3
	Other	14	8.6
	Total	163	100.1

Note. *N* = 163
*May not equal 100 due to rounding

Table 3 presents the numbers and percentages of the participants by year born, gender, and position title. For year born, there were a total of 163 participants: 8 (4.9%) were born between 1941-1950, 19 (11.7%) were born between 1951-1960, 54 (33.1%) were born between 1961-1970, 55 (33.7%) were born between 1971-1980, 23 (14.1%) were born between 1981-1990, and 4 (2.5%) did not respond. For gender, there were a total of 163 participants: 49 (30.1%) were male and 114 (69.9%) were female. For position title, there were a total of 163 participants: 22 (13.5%) were executives, 51 (31.3%) were middle management, 20 (12.3%) were talent development, 17 (10.4%) were trainers, and 53 (32.5) were other.

Table 3

Number and Percentages of Participants by Year Born, Gender, and Position Title

Variable	Category	n	%
Year born			
	1941-1950	8	4.9
	1951-1960	19	11.7
	1961-1970	54	33.1
	1971-1980	55	33.7
	1981-1990	23	14.1
	No response	4	2.5
	Total	163	100.0
Gender			
	Male	49	30.1
	Female	114	69.9
	Total	163	100.0
Position title			
	Executive	22	13.5
	Middle management	51	31.3
	Talent development	20	12.3
	Trainer	17	10.4
	Other	53	32.5
	Total	163	100.0

Note. *N* = 163

Table 4 presents the numbers and percentages of the participants by industry, size of organization, and years of HRD experience.

Table 4

Number and Percentages of Participants by Industry, Size of Organization, and Years of HRD Experience

Variable	Category	n	%*
Industry			
	Finance	8	4.9
	Government	7	4.3
	Healthcare/Pharmaceutical	9	5.5
	Higher education	46	28.2
	Insurance/Real estate	13	8.0
	Manufacturing/Utilities	5	3.1
	Technology	25	15.3
	Other	49	30.1
	No response	1	0.6
	Total	163	100.0
Size of the organization			
	0-100 employees	37	22.7
	101-1,000 employees	31	19.0
	1,001-5,000 employees	19	11.7
	5,001-10,000 employees	25	15.3
	10,001-30,000 employees	16	9.8
	30,001+ employees	35	21.5
	Total	163	100.0
Years of HRD experience			
	1-10	70	42.9
	11-20	56	34.4
	21-30	26	16.0
	31-40	7	4.3
	No response	4	2.5
	Total	163	100.1

Note. N = 163. *May not equal 100% due to rounding.

For industry, there were a total of 163 participants: 8 (4.9%) were in finance, 7 (4.3%) were in government, 9 (5.5%) were in healthcare/pharmaceutical, 46 (28.2%) were in higher education, 13 (8.0%) were in insurance/real estate, 5 (3.1%) were in

manufacturing/utilities, 25 (15.3%) were in technology, 49 (30.1%) were other, and 1

(0.6%) did not respond. For the size of organization, there were a total of 163

participants: 37 (22.7%) were in companies with 0-100 employees, 31 (19.0%) were in

companies with 101-1,000 employees, 19 (11.7%) were in companies with 1,001-5,000

employees, 25 (15.3%) were in companies with 5,001-10,000 employees, 16 (9.8%)

were in companies with 10,001-30,000 employees, and 35 (21.5%) were in companies

with 30,001+ employees. For years of HRD experience, there were a total of 159

participants: 70 (42.9%) were 1-10, 56 (34.4%) were 11-20, 26 (16.0%) were 21-30, and

7 (4.3%) were 31 – 40, and 4 (2.5%) did not respond.

Findings for Research Question 1

What are the participant perceptions to environmental influences that promote

Self-directed Learning in the workplace? This question was answered by using

descriptive statistics to report the number of similar responses by participant

preferences of what should be implemented to promote SDL in the workplace. The

mean results were reverse scored.

Table 5 presents the perspectives of participants on the importance of

implementing environmental preferences that promote SDL in the workplace. The

highest mean score recording consensus for importance was 3.39 for other written

categories by 28 participants. The second highest mean score was 3.31 for

organization culture encourages employees to learn on their own by 162 participants.

The next highest mean was 3.12 for flexibility to work virtually with mobile access to

learning by 162 participants. This was followed by a mean of 2.92 for managers guide

employees/match content to role by 162 participants. Designated library for information

curated by managers and peers received a mean score of 2.45 by 162 participants.

The monetary commission/reward category received a mean score of 2.27 with 161

participants. The results for the other written categories and their score ranging from

"Extremely important" to "Not at all important" are listed in Appendix E.

Table 5

Perspectives of Participants on Importance of Implementing Environmental Preferences
That Promote SDL in the Workplace

Variable	Total	*M*	*SD*
Flexibility to work virtually with mobile access to learning	162	3.12	1.04
Designated library for information curated by managers & peers	162	2.45	0.98
Organization culture encourages employees to learn on their	162	3.31	0.90
Monetary commission/Reward	161	2.27	1.22
Managers guide employees/Match content to role	162	2.92	0.85
Other	28	3.39	0.72

Note. N = 163

Table 6 presents the perspectives of participants related to the ease of

implementing environmental preferences that promote SDL in the workplace. The

highest mean score recording consensus for ease of implementation was 2.53 for

flexibility to work virtually with mobile access to learning by 160 participants. The

managers guide employees and match content to role category received a mean score

of 2.16 by 159 participants. This was followed by organization culture encourages

employees to learn on their own and designated library for information curated by

managers and peers with mean scores of 2.13 by 159 and 2.12 by 161 participants

respectively. The next mean was 1.64 for monetary commission/reward by 160

participants. This was followed by a mean of 1.57 by 25 participants for the other

written categories. The results for the additional written categories and their scores ranging from "Extremely easy to implement" to "Slightly difficult to implement" are listed in Appendix F.

Table 6

Perspectives of Participants on Ease of Implementing Environmental Preferences That Promote SDL in the Workplace

Variable	Total	*M*	*SD*
Flexibility to work virtually with mobile access to learning	160	2.53	1.36
Designated library for information curated by managers & peers	161	2.12	1.28
Organization culture encourages employees to learn on their	159	2.13	1.48
Monetary commission/Reward	160	1.64	1.41
Managers guide employees/Match content to role	159	2.16	1.32
Other	25	1.57	2.19

Note. *N* = 163

Figure 1 provided a comparison of the importance and ease of implementing environmental preferences that promote SDL in the workplace. The two highest means, resulting in a consensus for importance, were other and organization culture encourages employees to learn on their own. The two highest mean scores, resulting in a consensus, for ease of implementing was flexibility to work virtually with mobile access to learning and managers guide employees/match content to role.

Findings for Research Question 2

What are the possible differences of LPA scores with each demographic variable (highest level of education achieved, race/ethnicity, age, gender, position title, industry, size of the organization, and years of HRD experience)? This question was answered using Pearson product moment correlations for continuous LPA scores and demographic variables. ANOVA statistics were used to report the group means

differences of the learning preference scores by each remaining demographic variable (highest level of education achieved, race/ethnicity, gender, position title, industry, size of the organization, and years of HRD experience). Then Tukey post-hoc tests were conducted to identify significant differences between pair mean scores of associated variables.

LPA total scores for participants ranged from 58-247 in this research. The average of the total scores was 206.01 and the standard deviation was 18.33. The total score for each participant was divided by the total number of survey items (i.e., *n* = 58) to become the score on the 5-point Likert scale. Table 7 indicates the descriptive statistics of these 5-point scale scores, including the mean, standard deviation, minimum, and maximum scores for each category in each demographic variable. The highest level of highest education achieved mean scores ranged from 3.17 (high school diploma or equivalent) to 3.62 (associate or technical degree). Participants with a high school diploma or equivalent had lower LPA mean scores than other levels of education categories. Race/ethnicity mean scores ranged from 3.23 (Asian or Pacific Islander) to 3.61 (other). Asian or Pacific Islanders scored the lowest LPA mean scores of the remaining race/ethnicity categories. Female participant LPA mean scores were 3.54 and were lower than male LPA mean scores of 3.57. Position title mean scores ranged from 3.51 (middle management or other) to 3.68 (executive). Participants with middle management or other had lower LPA mean scores than the remaining position title categories. Industry mean scores ranged from 3.50 (other) to 3.68 (healthcare/pharmaceutical). Participants with other had lower LPA mean scores than

remaining industry categories. Size of the organization mean scores ranged from 3.38

(10,001-30,000 employees) to 3.68 (1,001-5,000 employees).

Table 7

Descriptive Statistics for Each Demographic Variable and Category

Variable	Category	n	Mean	SD	Min.	Max.
Level of education	High school diploma or equivalent	7	3.17	0.25	2.78	3.57
	Associate or technical degree	6	3.62	0.38	3.17	4.26
	Bachelor's degree	30	3.54	0.27	3.03	4.17
	Some graduate level	11	3.55	0.17	3.34	3.90
	Master's degree	76	3.60	0.21	2.88	4.07
	Doctoral degree	26	3.49	0.55	1.00	3.93
	Other	5	3.55	0.19	3.33	3.78
	Total	161	3.55	0.32	1.00	4.26
Race/ethnicity	Asian or Pacific Islander	7	3.22	1.10	1.00	4.07
	Black	19	3.53	0.26	3.09	4.17
	Hispanic	15	3.55	0.26	2.78	3.78
	Non-Hispanic/White	106	3.57	0.24	2.88	4.26
	Other	14	3.60	0.16	3.33	3.83
	Total	161	3.55	0.32	1.00	4.26
Gender	Male	48	3.57	0.25	2.88	4.17
	Female	113	3.54	0.34	1.00	4.26
	Total	161	3.55	0.32	1.00	4.26
Position title	Executive	21	3.68	0.22	3.19	4.17
	Middle management	50	3.51	0.26	2.88	4.26
	Talent development	20	3.60	0.21	3.33	4.02
	Trainer	17	3.60	0.21	3.09	3.90
	Other	53	3.51	0.43	1.00	4.07
	Total	161	3.55	0.32	1.00	4.26

Table 7 cont.

Variable	Category	n	Mean	SD	Min.	Max.
Industry	Finance	8	3.61	0.23	3.33	4.00
	Government	7	3.62	0.23	3.28	3.93
	Healthcare/Pharmaceutical	9	3.68	0.21	3.45	4.02
	Higher education	45	3.55	0.43	1.00	4.07
	Insurance/Real estate	13	3.60	0.34	3.09	4.26
	Manufacturing/Utilities	5	3.64	0.20	3.38	3.84
	Technology	25	3.54	0.23	3.14	4.03
	Other	48	3.50	0.27	2.78	3.97
	Total	160	3.55	0.32	1.00	4.26
Organization size	0-100 employees	36	3.64	0.27	2.98	4.26
	101-1,000 employees	31	3.54	0.27	2.78	4.07
	1,001-5,000 employees	19	3.68	0.18	3.28	4.00
	5,001-10,000 employees	25	3.49	0.27	2.88	4.02
	10,001-30,000 employees	15	3.38	0.68	1.00	3.90
	30,001+ employees	35	3.52	0.19	3.21	4.03
	Total	161	3.55	0.32	1.00	4.26
HRD experience	1-10	70	3.61	0.21	2.78	4.07
	11-20	56	3.54	0.29	2.88	4.26
	21-30	25	3.56	0.20	3.09	3.90
	31-40	7	3.46	0.26	3.17	3.76
	Total	158	3.57	0.24	2.78	4.26

Note. $N = 163$

Participants with organization size 10,001-30,000 employees had lower LPA mean scores than the remaining size of the organization categories. HRD experience mean scores ranged from 3.46 (31-40 years) to 3.61 (1-10 years). Participants with 31-40 years of HRD experience had lower LPA mean scores than the other HRD experience categories.

Table 8 presents the results of the Pearson product moment correlations to indicate the relationships of the continuous LPA mean scores and age variables. The correlation between LPA mean scores and age was -0.03. The p value of 0.71 was greater than 0.05 and therefore showed no significant evidence of relationship between continuous participant LPA scores and age. Figure 2 is the scatter plot between the LPA scores and age and also indicates no significant evidence of relationship between continuous participant LPA scores and age.

Table 8

Pearson Product Moment Bivariate Correlation of the LPA Scores and Age

Variable		LPA Mean	Age
LPA Mean	Pearson Correlation	1.00	-0.03
	Sig. (2-tailed)		0.71
	n	161.00	157.00
Age	Pearson Correlation	-0.03	1.00
	Sig. (2-tailed)	0.71	
	n	157.00	159.00

Note. *N* = 163

Table 9 illustrates the results of one-way ANOVA analyses that compared the group mean scores of each remaining independent variable to determine if there were any statistically significant differences to the LPA scores. The results showed significant results for the level of education, $F(6, 154) = 2.45$, $p < 0.05$, and for the size of the organization, $F(5, 155) = 2.37$, $p < 0.05$. There were no significant results for race, gender, position title, industry, and HRD experience (all p values > 0.05). Therefore, Tukey post hoc statistics were calculated for both demographic variables of education level and organization size.
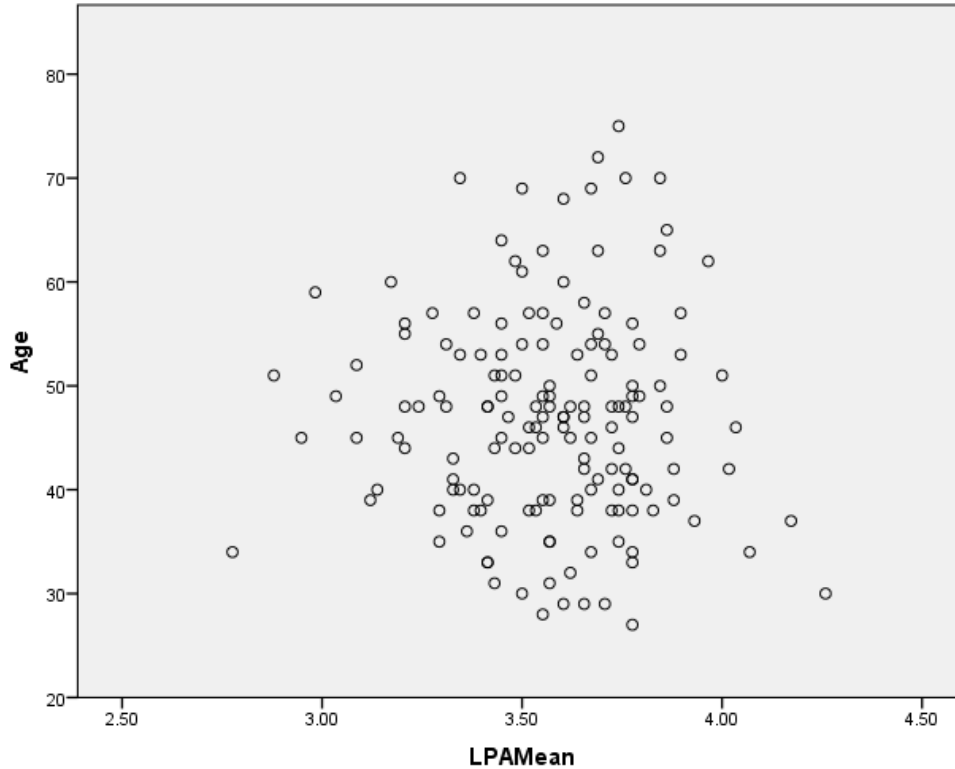
Figure 2. Scatter plot graph for continuous LPA mean scores and age.

Post-hoc significant results. Based on significant results of the independent variables, Tukey post-hoc tests were conducted on the level of education and the size of the organization to explore if any significant differences in mean scores were recorded across pairs in each category. Tables 10 and 11 compared the significant differences in mean scores of the associated variables level of education and size of the organization, respectively. In Table 10, the results showed only a significant difference of the mean LPA scores between high school diploma or equivalent and master's degree ($p < 0.01$), indicating from Table 7 that the mean LPA score of participants who possessed the master's degree ($M = 3.61$, $SD = 0.21$) was higher than that of participants who had high school diploma or equivalent ($M = 3.17$, $SD = 0.25$). Table 11 indicates no significant results for any paired category (all p values > 0.05).

Table 9

ANOVA Summary Analyses by Demographic Variable

Variable	Mean Differences	SS	df	MS	F	p
Level of Education	Between Groups	1.40	6	0.23	2.45	0.03*
	Within Groups	14.67	154	0.10		
	Total	16.07	160			
Race/ethnicity	Between Groups	0.84	4	0.21	2.14	0.08
	Within Groups	15.24	156	0.10		
	Total	16.07	160			
	Within Groups	16.04	159	0.10		
	Total	16.07	160			
Position title	Between Groups	0.63	4	0.16	1.60	0.18
	Within Groups	15.44	156	0.10		
	Total	16.07	160			
Industry	Between Groups	0.42	7	0.06	0.59	0.76
	Within Groups	15.46	152	0.10		
	Total	15.89	159			
Size of Organization	Between Groups	1.14	5	0.23	2.37	0.04*
	Within Groups	14.93	155	0.10		
	Total	16.07	160			
HRD Experience	Between Groups	0.24	3	0.08	1.36	0.26
	Within Groups	9.02	154	0.06		
	Total	9.26	157			

Note. N = 163. *Significant at 0.05 level.

Guglielmino, Guglielmino, and Long (1987) found similar significant differences in LPA mean scores regarding level of education. They found "individuals who have completed higher levels of education tend to have higher SDLRS scores" (p. 303). The purpose of their study was to address the relationship between performance on the job and self-directed learning readiness as measured by the Self-Directed Learning Readiness Scale (SDLRS) across five similar variables of level of management, gender, educational level, age, and race. A sample of 753 individuals were drawn from the total

population of a large utility company while attending a training courses. Four hundred twenty-one were managers and 318 were non-managers; 14 respondents did not indicate their employment level. There was an insufficient number of upper level management in the sample to examine the level of significance of differences between SDLRS score and level of management. The results did show significant differences in SDLRS scores between genders with difference significant at the 0.002 level. There was a significant difference in mean scores for respondents aged 46-55 at the 0.001 level were lower than the other age groups. There was no significance in SDLRS scores by race.

Similarly, Long and Agyekum (1983) found significant differences in SDLRS scores exist in race, age, and educational levels. The purpose of their study was to add to the validity of the SDLRS instrument, expound on any racial differences by comparing SDLRS scores between blacks and whites, and identify any relationships with age and level of educational achievement. Their sample included 136 college students from two different colleges: 63 black students, 70 white students and 3 students of other nationalities. They found age and educational level are associated with SDLRS scores by suggesting that older students have learned to be more self-directed in their college work and their observations were further strengthened by the relationship of both age and educational achievement level as well as the theoretical base of the SDLRS and supports assumptions of validity.

Table 10

Tukey Post Hoc Analysis for Level of Education

Highest level of education achieved (I)	Highest level of education (J)	Mean Difference (I-J)	SE	p	95% Confidence Interval	
					Lower Bound	Upper Bound
High school diploma or equivalent	Associate or technical	-0.05	0.17	0.12	-0.97	0.06
	Bachelor's degree	-0.37	0.13	0.07	-0.76	0.02
	Some graduate level	-0.39	0.15	0.13	-0.83	0.06
	Master's degree	-0.44*	0.12	0.01*	-0.80	-0.08
	Doctoral degree	-0.33	0.13	0.18	-0.72	0.07
	Other	-0.38	0.18	0.34	-0.92	0.16
Associate or technical degree	Bachelor's degree	0.09	0.14	1.00	-0.32	0.50
	Some graduate level	0.07	0.16	1.00	-0.40	0.54
	Master's degree	0.02	0.13	1.00	-0.38	0.41
	Doctoral degree	0.13	0.14	1.00	-0.29	0.55
	Other	0.07	0.19	1.00	-0.49	0.63
Bachelor's degree	Some graduate level	-0.02	0.11	1.00	-0.34	0.31
	Master's degree	-0.07	0.07	0.93	-0.27	0.13
	Doctoral degree	0.04	0.08	1.00	-0.20	0.29
	Other	-0.02	0.15	1.00	-0.46	0.43
Some graduate level	Master's degree	-0.05	0.10	1.00	-0.35	0.24
	Doctoral degree	0.06	0.11	1.00	-0.27	0.39
	Other	0.00	0.17	1.00	-0.49	0.50
Master's degree	Doctoral degree	0.12	0.07	0.66	-0.09	0.32
	Other	0.06	0.14	1.01	-0.37	0.48
Doctoral degree	Other	-0.06	0.15	1.01	-0.51	0.39

Note. N = 163.   *Significant at 0.01 level

Table 11

Tukey Post Hoc Analysis for Size of the Organization

(I) Size of the Organization:	(J) Size of the Organization:	Mean Difference (I-J)	SE	p	95% Confidence Interval	
					Lower Bound	Upper Bound
0-100 employees	101-1,000 employees	0.10	0.08	0.76	-0.12	0.32
	1,001-5,000 employees	-0.05	0.09	1.00	-0.30	0.21
	5,001-10,000 employees	0.14	.08	0.48	-0.09	0.38
	10,001-30,000 employees	0.26	0.10	0.09	-0.02	0.53
	30,001+ employees	0.11	0.07	0.64	-0.10	0.33
101-1,000 employees	1,001-5,000 employees	-0.15	0.09	0.58	-0.41	0.11
	5,001-10,000 employees	0.04	0.08	1.00	-0.20	0.28
	10,001-30,000 employees	0.15	0.10	0.62	-0.13	0.44
	30,001+ employees	0.01	0.08	1.00	-0.21	0.23
1,001-5,000 employees	5,001-10,000 employees	0.19	0.09	0.35	-0.08	0.46
	10,001-30,000 employees	0.30	0.11	0.06	-0.01	0.61
	30,001+ employees	0.16	0.09	0.47	-0.10	0.41
5,001-10,000 employees	10,001-30,000 employees	0.11	0.10	0.88	-0.18	0.40
	30,001+ employees	-0.03	0.08	1.00	-0.26	0.20
10,001-30,000 employees	30,001+ employees	-0.14	0.10	0.68	-0.42	0.13

Note. $N = 163$.

Research Practices

Observations for other researches trying to replicate this study would be to increase the amount of face-to-face focus groups, include a second recorder and reviewer during the focus group process, and change the Qualtrics scoring process for the performance form to eliminate the need for reverse scoring. Implementing more face-to-face focus groups may improve the quality of feedback received by the participants. The research may have more control of the participants and their responses if they are in the same room or have the ability to focus their attention to a participant with the ability to read physical queues for questions or provide more time for deeper responses.

A second recorder may assist with recording responses while the researcher manages the focus group. They may also assist in confirming responses during the session or after the focus group when it is time to summarize participant feedback and group the responses into themes. An assistant in the recording process can increase validity and minimize researcher bias.

Changing the Qualtrics scoring process for the performance form would have eliminated the need for reverse scoring. Asking participants to rate each of the preferences for workplace environment changes from "Extremely important" to "not at all important" should have been scored as 5 to 1. Similarly, rating each of the preferences for workplace environment changes from "Extremely easy to implement" to "Slightly difficult to implement" should have been scored 5 to 1. Following this method of scoring would have eliminated the need for reverse scoring after the data was collected by Qualtrics and downloaded to a spreadsheet for analysis. It would have also created an

easier method for communicating the results of the proposed environmental changes as the most important and easiest to implement by the highest mean scores.

Summary

This chapter described the research findings of this study. Fourteen people participated in four focus groups and produced the top five environmental preferences to promote self-directed learning in the workplace. They included (a) flexibility to work virtually with mobile access to learning, (b) designated library for information curated by managers and peers,(c) organization culture encourages employees to learn on their own, (d) monetary commission/reward, and (e) managers guide employees/match content to role.

The most popular environmental preferences to promote SDL in the workplace by importance were other written categories and organization culture encourages employees to learn on their own. The most popular environmental preferences to promote SDL in the workplace by ease of implementation were flexibility to work virtually with mobile access to learning and managers guide employees/match content to role.

The LPA scores ranged from 58-247 in this research. The mean score was 206.01, which is the average level on the LPA. The standard deviation of 18.33 presents an equal distribution of scores in a bell curve. The mean score of 206.01 indicated the majority of participants had an average level of self-directed learning readiness.

Pearson product moment correlations were calculated and showed no significant evidence of relationship between the continuous LPA mean scores and age variables. Group mean scores were compared for each remaining independent variable to

determine if there were any statistically significant differences to the LPA scores. The results showed significant results p values < 0.05 for the level of education and the size of the organization. Tukey post-hoc multiple pairwise comparisons tests were conducted for the differences of LPA scores and the demographic variables of highest level of education achieved and the size of organization. Only the level of education categories of high school diploma or equivalent and master's degree was found to be significant.

Chapter Five

Summary, Discussion, Conclusions, Implications, and Recommendations

The purpose of this study was to identify perceptions of environmental changes that promote self-directed learning in the workplace by Human Resources Development (HRD) practitioners and to investigate possible differences of the dependent LPA score variables to independent variables of highest level of education achieved, race/ethnicity, age, gender, position title, industry, size of the organization, and years of HRD experience. This chapter presents a summary of the study, discussion, conclusions, implications, and recommendations for procedures and further research.

Summary

The target population for this study included members of the Association for Talent Development (ATD) Florida Suncoast Chapter and Research Triangle Area Chapter. The study used a snowball effect as the sampling technique to acquire participants from each chapter and draw a sample from the very large, geographically dispersed population of US HRD practitioners; for that reason, the survey may have been forwarded to others outside the two ATD chapters. The total number of participants collected for this study was 163 individuals ($N = 163$).

The research used a mixed method design. Qualitative data were recorded through four focus groups until a saturation of comments was reached (Krueger & Casey, 2009). Descriptive statistics were used to tabulate and describe the sets of

data. Quantitative Pearson product moment correlation and ANOVA statistics were used to examine the possible differences of LPA scores with each demographic variable (Glass & Hopkins, 1996). Tukey post-hoc pairwise comparison tests were used to compare significant differences in mean scores of any associated variables.

Two research questions were used to guide this study:

1. What are the participant perceptions to environmental influences that promote Self-directed Learning in the workplace?

2. What are the possible differences of LPA scores with each demographic variable (highest level of education achieved, race/ethnicity, age, gender, position title, industry, size of the organization, and years of HRD experience)?

Results for question one used descriptive statistics to report the number of similar responses by participant preferences of what actions should be implemented to promote SDL in the workplace. The lowest mean scores recorded a consensus for importance and ease of implementation. The most popular environmental preferences to promote SDL in the workplace by importance were other written categories and organization culture encourages employees to learn on their own. The most popular environmental preferences to promote SDL in the workplace by ease of implementation were flexibility to work virtually with mobile access to learning and managers who guide employees/match content to role.

Results for question two used the Pearson product moment correlations to determine if there were possible differences between participant LPA scores and the demographic variables. As a result, only the highest level of education achieved

illustrated significant evidence that there was a difference between participant LPA scores and the highest level of education achieved.

Tukey post-hoc tests were conducted on the highest level of education achieved to explore if any significant differences in mean scores were found across multiple independent variables. The tests found a pairwise difference in the LPA scores between high school diploma or equivalent and master's degree categories. Participants with a master's degree had higher LPA mean scores (M = 3.61, SD = 0.21) than participants who had high school diploma or equivalent (M = 3.17, SD = 0.25).

Discussion

Focus groups produced 22 promoters and 8 discouragers for environmental preferences to promote SDL in the workplace. The top five promoters were used in the preference form of the survey (flexibility to work virtually with mobile access to learning, designated library for information curated by managers and peers, organization culture encourages employees to learn on their own, monetary commission/reward, and managers guide employees/match content to role) were consistent with previously reviewed literature. Mishra, Fahnoe, and Henriksen (2013) found similar results in flexibility for the learner, but they specified environments for self-directed learning in a technology-driven environment need to provide a flexible workplace structure to experiment, collaborate, and problem solve. Although not in the top five promoters produced by the focus groups, mentoring was in the top 10 and recorded in the survey by participants as both very important to implement and averagely easy to implement. Guglielmino and Guglielmino (2008) believed it is essential for leaders to model self-directed behavior and mentor employees if all workers were expected to be self-directed

learners. In addition, an organization's culture that encourages an employee to learn enhances SDL when each member is respected and is accountable for contributing to its advancement.

LPA scores ranged from 58-247 in this research. The mean score on the LPA was 206.01, which is the average level on the LPA. The standard deviation of 18.33 presents an equal distribution of scores in a bell curve. According to Guglielmino and Guglielmino (2016b), scores following a bell curve centered on the mean score of 214 is consistent with their research. However, this study differed from previously reviewed research since there was significance found in highest level of education achieved.

Conclusions

The conclusions that accrue from this study are discussed below.

Some of the major factors participants expressed as current workplace environmental characteristics that promote SDL in the workplace were flexibility to work virtually, access to a designated library of information, an organizational culture that encourages learning, monetary rewards for learning, and managers guiding employee learning. This is similar to a related study by Confessore and Kops (1998) that stated supportive workplace environments for SDL include encouraging managers with autonomy for employees, tolerance for error, and the ability for unplanned learning activities.

The majority of LPA mean scores for this study fell in the average category. The scores created a bell curve with fewer results in the below average and above average categories. This is similar to Guglielmino and Guglielmino (2016b), where participant

LPA mean scores were distributed across a bell curve through all three scoring levels and centered in the average category.

Most of the education categories were similar. Only high school diploma or equivalent and master's degree had differences based on follow-up tests. Master's degrees scored higher than high school diploma or equivalent which is similar to Guglielmino, Guglielmino, and Long (1987) who found individuals with higher levels of education have higher LPA scores.

The majority of race/ethnicity categories also had similar LPA scores. Previous research studies did not find any differences in LPA scores regarding race/ethnicity.

LPA scores for age were recorded in a continuous range for this study. Results by age were similar in most preceding research which found no difference by age. However, as Knowles stated in previous work, adults become more self-directed as they increase in age (Ellinger, 2004).

Results by gender were similar in this study. Guglielmino, Guglielmino, and Long (1987) found comparable results with no differences by gender.

LPA scores based on position title were also similar. Previous research showed no differences or had insufficient number of participants by position title (Guglielmino, Guglielmino, & Long, 1987).

Results by industry in this study were alike. Previous research did not include industry as a demographic variable in measuring differences in LPA scores.

Although the size of the organization had differences based on the overall test, the pairwise tests indicated that all categories were similar regardless of size.

Measuring differences in LPA scores for size of an organization as a demographic variable was not included in previous research.

The years of experience category results were similar for length of HRD experience regardless of how long individuals had been employed in HRD. Previous research did not include the number of years of HRD experience as a demographic variable in measuring differences in LPA scores.

Implications

The implications for practice from this study are discussed below.

This study contributes to the research of the LPA and SDL in the workplace. Recording LPA scores of HRD professionals from the Florida Suncoast Chapter and Research Triangle Area Chapter could provide additional data to support validity and reliability of the LPA tool. It could benefit those in HRD positions who support SDL in the workplace, adult learning educators in higher education, career developers, and leadership and talent development professionals.

The result of the focus groups and recording promoters and discouragers as environmental preferences to support SDL in workplace, individuals can help to create an environment that supports SDL in their workplace. This study should also benefit HRD professionals. If each employee is required to contribute to the success of the organization, then individuals must assume responsibility for identifying gaps in learning, acquiring it, and reassessing gaps for themselves and the organization.

Stakeholders who are enabled to promote SDL in their workplace may also benefit from the results of this study. As a result of differences in LPA scores with participants who received a high school diploma or equivalent and participants who

received a master's degree as their highest level of education achieved, stakeholders who promote SDL in the workplace may find better results with individuals who have higher levels of education.

HRD professionals may also benefit from this study as they are challenged with creating strategy and innovative plans to increase the performance of their diverse workforce in global organizations. The results of LPA scores for the variety of participant demographics captured in this study showed similar results across differing race/ethnicities, implying that individuals of all cultures may benefit from self-directed learning.

Age may not be a factor when employing individuals as there was no difference in LPA scores and age of participants. Therefore, it may be important for HRD stakeholders who hire or manage employees to recognize that individuals regardless of age may be strong self-directed learners.

Comparably there was no difference between LPA scores and gender. As a result, employers should not use gender as a factor when employing individuals. Males and females may both be strong self-directed learners.

All position levels may benefit from this study as there was no difference in LPA scores. Therefore all employees, regardless of position title, may be strong self-directed learners.

A variety of industries may benefit from this study. Although differing industries have distinct environments for employees to learn on their own, the importance for their staff to maintain and improve their level of knowledge in a related skill set remains the

same. Therefore, recognizing a need to focus on improving environments in the workplace to promote SDL may benefit an organization regardless of industry.

Similarly organizations that vary in size may benefit from the results of this study. Individuals employed by small, medium, and large sized organizations may have differing perspectives on the benefits of SDL in the workplace and the best environments to promote SDL in their organization.

Furthermore, stakeholders who employ individuals with varying levels of HRD experience should benefit from this study. Employees with varying levels of HRD experience may have differing viewpoints on SDL and its importance in the workplace. As a result, it may benefit an organization to recognize what the employees believe to be environments that promote SDL in the workplace.

Recommendations for Procedures

There are several recommendations for research procedures. This study used a mixed method design so recommendations can be applied to either part of the study.

Qualitative data were recorded with four focus groups and were administered through recorded teleconference phone calls. Using face-to-face focus groups may provide different results of environmental preferences that promote SDL in the workplace. For example, when researchers are able to implement a face-to-face focus group, they are able to use physical cues of an individual or group to encourage them to talk more about a comment in depth or pause to enable the group to provide more information on a theme before moving on to another topic. Therefore solely implementing face-to-face focus groups might generate different results for environmental preferences that promote SDL in the workplace.

Instituting a second individual as a coder to record focus group feedback, summarize comments by themes, and frequency of each may help to minimize bias of a single researcher and improve internal validity of the focus group results. For example, a second person may help the researcher to better manage the focus group while they document notes to help interpret the comments after the focus groups are completed.

In addition, individual interviews may provide more in-depth responses than a group setting. While group interviews may enable participants to reflect on others' comments and provide their own examples, individual interviews may also allow the researcher and scorer to ask more in-depth questions in response to each participant's comments.

Changing the scoring process in Qualtrics for recoding individual preferences for workplace environment changes from "Extremely important" to "not at all important" should be scored as 5 to 1. This would eliminate the need for reverse scoring in the future. Similarly, recoding individual preferences for workplace environment changes from "Extremely easy to implement" to "Slightly difficult to implement" should be scored 5 to 1. This would create an easier method for communicating the results of the proposed environmental changes as the most important and easiest to implement by the highest mean scores.

Recommendations for Further Research

There are several recommendations for further research.

Researchers may also identify differences in environmental preferences in other countries, and geographic regions, and/or cultures. Varying cultures may have differing effects on workplace cultures. European Works Councils consult management and

employees on company results, change in staff, and general direction of the organization at a European level. This could affect working conditions and identify learning gaps for employees.

Furthermore, some countries restrict access to the intranet and other tools for learning outside of designated curriculum. A culture of learning requires freedom of employees to own their learning and provide value to the organization. SDL can be enhanced when individuals have the ability to contribute to their learning and advancement of the company.

Another study could be performed with different demographics, such as nationality. Focusing on one workplace nationality might provide specific data on individuals who represent that demographic. Cultures differ on ownership of workplace learning and it may be important for employees who influence a workplace learning environment to help promote SDL.

A similar study could also be conducted for highest level of education achieved. The results may support the differences in LPA scores found between high school diploma or equivalent and master's degree participants in this study and others.

Age was another variable that may benefit from additional research. Age was a unique variable that was scored continuously and found no relationship to LPA scores. Further research on this topic may find similar or dissimilar results for LPA scores and age.

Conducting a similar study for position title will help fill the void of research for SDL in the workplace. These results may help determine if differences in LPA scores exist for participants by position title.

There is a gap of research regarding industry and SDL. Therefore, it may help promote the field of SDL study to create similar research on whether there are differences in SDL across various industries.

Similarly, there is a disparity of SDL research regarding significant differences by the size of the organization. Investigating whether the size of organizations may impact SDL and could benefit the field of SDL.

The level of HRD experience is another category that may profit from additional research. Focusing on significant differences of LPA scores by the number of years an individual has with HRD experience may also promote SDL research.

Social networking is another area for further research. Organizations are coercing employees to share ideas through newly designed work environments. They are moving away from individual offices and cube workspaces to open designs with limited to no walls between employees to encourage collaboration and sharing of ideas. Organizations also schedule social events for their employees to meet on or off campus. Cross departmental and cross industry meetings, games, or other social networking events should be further researched as a way to build empathy for other co-workers to better understand barriers and also to collect best practices for implementation.

This study utilized 163 HRD professionals who were ATD members from the Florida Suncoast Chapter or the Research Triangle Area Chapter. Conducting further research by increasing the number of participants may provide more information about environmental preferences of SDL in the workplace and LPA results. There are more than 100 ATD chapters in the United States. It would benefit the SDL field of study to conduct similar research with ATD Chapters across different geographical areas of the

United States. Researchers may find varying environmental preferences to promote self-directed learning in the workplace. Similar studies could also be conducted with a more diverse global population to determine whether similar results of preferences for environmental changes to promote SDL in the workplace and LPA for employee variables.

Non-HRD practitioners may have different views of learning organizations. For example, executive level or IT employees who have direct influence on the direction of the organization and access to external learning may have different perspectives on environmental preferences to promote SDL in the workplace. Therefore, it would be beneficial to capture opinions of non-HRD employees and their ideas to revise workplace learning practices.

This study focused on white-collar professionals and organizations that may have more flexibility in owning their learning. Similar studies could be conducted with blue-collar workers and organizations to determine whether similar or different preferences might be identified to promote SDL in the workplace and if LPA scores would vary.

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Appendices

Appendix A
Focus Group Procedures

Teleconference Invitation

Hello,

My name is Trevor Bernard and I am a doctoral candidate at the University of South Florida and a past VP, Professional Development for then ASTD Florida Suncoast Chapter.

As part of my studies I am conducting a survey on learning preferences. Since you are a member of the ATD Florida Suncoast Chapter I'd like to ask you to participate in a focus group on _____, _____ __, ____.

I anticipate it will last one hour and it will be recorded for accuracy of content. The purpose of the discussion will center on your ideas for changing current workplace environments to promote self-directed learning in the workplace.

After you agree to participate a confirmation email will be sent in advance of the call with ground rules and a short overview of the study.

Thank you in advance,
Trevor

Appendix A cont.

Focus Group Teleconference Confirmation Email

Hello,

Thank you for agreeing to participate in my focus group scheduled for _____, _____ __ at _ pm ET.

The call is expected to last one hour and it will be recorded for accuracy of content. I expect 4-5 participants and we will start with an overview of self-directed learning in the workplace, emphasizing environmental challenges facing employees and organizations and discuss possible solutions.

Ground rules include:
- Call back in if you get disconnected
- Don't hesitate to interrupt if you have to leave for any reason
- Some of the most important topics will occur at the end
- Please plan to stay with us for the full hour
- I'd like everyone to participate
- Please share your opinion if it has not already been expressed
- It will be recorded so no comments are missed
- No names will be attached to any report taken from the focus group
- I'd like to conversation to be fluid and professional
- Please respect everyone's opinion

Do not hesitate to contact me in advance if you have any questions.

Thank you,
Trevor

Appendix A cont.

Focus Group Teleconference Administering Protocols

Short welcome statement:
Thank you for attending this afternoon's call. It is a focus group for attaining your preferences of supporting self-directed learning in the work place.

Short overview of the topic:
As many of you are aware organizations have the need to promote employee development and establish a structured workplace learning environment to create an advantage over their competitors. As an example U.S. companies understand this model and have over the years produced a $164.2 billion annual training and development industry (Miller, 2012). However, due to rapid changes in an ever-increasing global economy, organizations struggle to develop and implement timely formal learning curricula with objectives to support the skills and knowledge needed for their staff and business to be successful. Therefore, organizations are beginning to realize the need to provide an environment that enables employees to be self-sufficient in identifying their skill gaps and pursuing learning on their own; making learning part of their job.

For this reason self-directed learning is an important concept for organizations to implement in addition to their formal learning initiatives. However, as many of you may a good understanding of self-directed learning a review of related literature does not provide one definition. Nonetheless we will use this one during our focus-group. According to Malcolm Knowles (1975) "self-directed learning as a process in which individuals take the initiative, with or without the help of others, to diagnose their learning needs, formulate learning goals, identify human and material resources for learning, choose and implement appropriate learning strategies and evaluate learning outcomes." In short, employees take the initiative to identify they have a learning need, build a plan to bridge that learning gap, go out and learn, implement their new learning, and evaluate the outcomes to determine if the need for new needs exist.
This call will help to identify what's currently in place to support self-directed learning at your workplace, what's missing, what works, what does not work would their suggestions change if they were employed in a different industry and with different types of employees, in addition to your preferences of what should be added to promote self-directed learning in the workplace.

Review of ground rules
- Please call back in if you get disconnected
- Don't hesitate to interrupt if you have to leave for any reason
- Some of the most important topics will occur at the end
- Please plan to stay with us for the full hour
- I'd like everyone to participate
- Please share your opinion if it has not already been expressed
- It will be recorded so no comments are missed

Appendix A cont.

Focus Group Teleconference Administering Protocols cont.

- No names will be attached to any report taken from the focus group
- I'd like to conversation to be fluid and professional
- Please respect everyone's opinion

Confidentiality reminder:
All of you have completed the short consent form. As a reminder this session will be recorded for the purposes of data collection and numbers will be assigned to participant aliases to protect your confidentiality. This will also ensure that the developed results of the focus group represent a composite of the group rather than of individual contributions. Focus group data will be stored on a password protected laptop after the completion of this study in compliance with the IRB Board of the University of South Florida.

The recording will begin after a number is assigned to each participant. From that time forward participants will only addressed by their number to maintain participant anonymity.

To start the conversation would anyone like to communicate what is working currently in their organization to promote self-directed learning?

Participants will be thanked for providing their feedback at the completion of the focus group and they will be asked to provide contact information of others who may like to contribute in the next focus group.

Appendix A cont.

Focus Group Thank You Email

Hello,

Thank you again for participating in yesterday's focus group.

In an effort to collect additional information on the topic I will need to facilitate several more sessions until a saturation of preferences are recorded.

As a result, please forward my contact information to one to two other colleagues that are ATD members and would be able to participate in another focus group.

Do not hesitate to contact me in advance if you have any questions.

Thanks again,
Trevor

Appendix B
Preference Form

Please rate each of the preferences for workplace environment changes that will help to promote self-directed learning in the workplace as "extremely important" to "not at all important."

Please select one rating for each preference. You can have multiple preferences with the same rating.

You may also type in another preference, in addition to those listed, and rate that one as well.

	Extremely important	Very important	Moderately important	Slightly important	Not at all important
Flexibility to work virtually with mobile access to learning	O	O	O	O	O
Designated library for information curated by managers & peers	O	O	O	O	O
Organization culture encourages employees to learn on their own	O	O	O	O	O
Monetary commission/Reward	O	O	O	O	O
Managers guide employees/Match content to role	O	O	O	O	O
Other:	O	O	O	O	O
:					

Please rate each of the preferences for workplace environment changes that will help to promote self-directed learning in the workplace as "extremely easy to implement" to "slightly difficult to implement."

Please select one rating for each preference. You can have multiple preferences with the same rating.

You may also type in another preference, in addition to those listed, and rate that one as well.

	Extremely easy to implement	Moderately easy to implement	Slightly easy to implement	Neither easy nor difficult to implement	Slightly difficult to implement
Flexibility to work virtually with mobile access to learning	O	O	O	O	O
Designated library for information curated by managers & peers	O	O	O	O	O
Organization culture encourages employees to learn on their own	O	O	O	O	O
Monetary commission/Reward	O	O	O	O	O
Managers guide employees/Match content to role	O	O	O	O	O
Other:	O	O	O	O	O

Appendix C
Demographic Form

Please click the button or use the slide rule to select the correct answer for each item.

Highest level of education achieved:
o   High School Diploma or Equivalent
o   Associate or Technical Degree
o   Bachelor's Degree
o   Some Graduate Level
o   Master's Degree
o   Doctoral Degree
o   Other

Race/Ethnicity:
o   Asian or Pacific Islander
o   Black
o   Hispanic
o   non-Hispanic/White
o   Other

Use the slide rule to select the year you were born:
o   1935-2000

Gender:
o   Male
o   Female

Position Title:
o   Executive
o   Middle Management
o   Talent Development
o   Trainer
o   Other

Industry:
o   Finance
o   Government
o   Healthcare/Pharmaceutical
o   Higher Education
o   Insurance/Real Estate
o   Manufacturing/Utilities
o   Retail
o   Technology
o   Other

Appendix C cont.
Demographic Form cont.

Size of the Organization:
o   0-100 employees
o   101-1,000 employees
o   1,001-5,000 employees
o   5,001-10,000 employees
o   10,001-30,000 employees
o   30,001+ employees

Years of HRD Experience:
o   1-10
o   11-20
o   21-30
o   31-40
o   41-50
o   51-60
o   61-70+

Appendix D
Sample Learner Preference Assessment (This is not the LPA format used, but an example of the instrument. Contact Guglielmino & Associates, LLC for a full copy.)

The following items ask about your learning preferences and attitudes towards learning.

After reading each item, please indicate the degree to which you feel that statement is true of you. Read each choice carefully and choose the response that best expresses your feeling. Try not to spend too much time on any one item. Your first reaction to the question will usually be the most accurate.

Responses
1 = Almost never true of me; I hardly ever feel this way.
2 = Not often true of me; I feel this way less than half the time.
3 = Sometimes true of me; I feel this way about half the time.
4 = Usually true of me; I feel this way more than half the time.
5 = Almost always true of me; there are very few times when I don't feel this way.

Items
1. I'm looking forward to learning as long as I'm living.
2. I know what I want to learn.
3. When I see something that I don't understand, I stay away from it.
4. If there is something I want to learn, I can figure out a way to learn it.
5. I love to learn.
6. It takes me a while to get started on new projects.
7. In a classroom situation, I expect the instructor to tell all class members exactly what to do at all times.
8. I believe that thinking about who you are, where you are, and where you are going should be a major part of every person's education.
9. I don't work very well on my own.
10. If I discover a need for information that I don't have, I know where to go to get it.
11. I can learn things on my own better than most people.
12. Even if I have a great idea, I can't seem to develop a plan for making it work.
13. In a learning experience, I prefer to take part in deciding what will be learned and how.
14. Difficult study doesn't bother me if I'm interested in something.
15. No one but me is truly responsible for what I learn.
16. I can tell whether I'm learning something well or not.
17. There are so many things I want to learn that I wish there were more hours in a day.
18. If there is something I have decided to learn, I can find time for it, no matter how busy I am.
19. Understanding what I read is a problem for me.

Appendix E
Other Categories—Importance of Implementation

Table E1

Other Categories--Perspectives of Participants on Importance of Implementing Environmental Preferences That Promote SDL in the Workplace

Variable	Response	Extremely important n	Very important n	Moderately important n	Slightly important n	Not at all important n
Other-TEXT	Contributions are appreciated	1	0	0	0	0
	A roadmap/guide of critical competencies	0	1	0	0	0
	Ability to learn while on the clock	0	1	0	0	0
	Accountability	1	0	0	0	0
	Autonomy	1	0	0	0	0
	Be treated as a professional	0	1	0	0	0
	Coaching, reflection sessions	1	0	0	0	0
	Culture reinforces learning after training completion	1	0	0	0	0
	Depth that worth my time	0	1	0	0	0
	Freedom to set your own deadlines	1	0	0	0	0
	Incorporate into annual budget forecasting	1	0	0	0	0
	Learning experiences tied to current projects	1	0	0	0	0
	Learning Org	1	0	0	0	0
	Learning through experiences	1	0	0	0	0

Table E1 cont.

Variable	Response	Extremely important *n*	Very important *n*	Moderately important *n*	Slightly important *n*	Not at all important *n*
	Non-monetary recognition	0	1	0	0	0
	Positive culture	0	1	0	0	0
	Recognition	0	1	0	0	0
	Recognition of improvement	1	0	0	0	0
	Relevance to organization requirements and promotion	1	0	0	0	0
	Room for growth/development	1	0	0	0	0
	Work place environment	1	0	0	0	0
	Total	14	7	0	0	0

Note. $N = 163$

Appendix F
Other Categories—Ease of Implementation

Table F1

Other Categories--Perspectives of Participants on Ease of Implementing Environmental Preferences That Promote SDL in the Workplace

Variable	Response	Extremely easy to implement	Moderately easy to implement	Slightly easy to implement	Neither easy nor difficult to implement	Slightly difficult to implement
		n	*n*	*n*	*n*	*n*
Other-TEXT	Accountability	0	0	0	0	1
	Clear relevance to organization requirements and promotion	0	0	0	0	1
	Coaching	0	1	0	0	0
	Culture reinforces learning	0	0	0	0	1
	Designated time for learning	0	0	0	0	1
	Employees support to peers	1	0	0	0	0
	learning through experiences	0	0	0	0	1
	Learning tied to current projects	0	1	0	0	0
	Non-monetary recognition	1	0	0	0	0
	On site space to access learning	0	0	0	0	1
	Positive culture	0	0	0	0	1
	Recognition of improvement	1	0	0	0	0

Table F1 cont.

Variable	Response	Extremely easy to implement *n*	Moderately easy to implement *n*	Slightly easy to implement *n*	Neither easy nor difficult to implement *n*	Slightly difficult to implement *n*
	Resource experts who can translate essential skills and knowledge in ways others can learn in a useful way	0	0	0	0	1
	Several of above options depend on individual executives, and some may be easy to implement but do not necessarily impact positively in long term (money)	1	0	0	0	0
	Total	4	2	0	0	8

Note. *N* = 163

Appendix G
LPA Scores and Demographic Variables

Table G1

Cross Tabulation of LPA Scores and Demographic Variables

Variable	Category	Below Average n	Below Average Row %	Average n	Average Row %	Above Average n	Above Average Row %
Highest level of	High School Diploma	3	42.9	3	42.9	1	14.3
education achieved:	Associate or Technical Degree	0	0.0	2	33.3	4	66.7
	Bachelor's Degree	3	10.0	7	23.3	20	66.7
	Some Graduate Level	0	0.0	1	9.1	10	90.9
	Master's Degree	2	2.6	11	14.5	63	82.9
	Doctoral Degree	0	0.0	3	12.0	22	88.0
	Other	0	0.0	1	20.0	4	80.0
Race/Ethnicity:	Asian or Pacific Islander	1	16.7	1	16.7	4	66.7
	Black	1	5.3	3	15.8	15	78.9
	Hispanic	2	13.3	2	13.3	11	73.3
	Non-Hispanic/White	4	3.8	21	19.8	81	76.4
	Other	0	0.0	1	7.1	13	92.9
Year born	1941 - 1950	0	0.0	1	12.5	7	87.5
	1951 - 1960	1	5.6	3	16.7	14	77.8
	1961 - 1970	4	7.4	9	16.7	41	75.9
	1971 - 1980	2	3.7	10	18.5	42	77.8
	1981 - 1990	1	4.3	4	17.4	18	78.3
Gender:	Male	1	2.1	10	20.8	37	77.1
	Female	7	6.3	18	16.1	87	77.7

Table G1 cont.

Variable	Category	LPA Levels Below Average n	Below Average Row %	Average n	Average Row %	Above Average n	Above Average Row %
Position Title:	Executive	0	0.0	1	4.8	20	95.2
	Middle Management	3	6.0	16	32.0	31	62.0
	Talent Development	0	0.0	5	25.0	15	75.0
	Trainer	1	5.9	1	5.9	15	88.2
	Other	4	7.7	5	9.6	43	82.7
Industry:	Finance	0	0.0	1	12.5	7	87.5
	Government	0	0.0	2	28.6	5	71.4
	Healthcare/Pharmaceutical	0	0.0	1	11.1	8	88.9
	Higher Education	0	0.0	7	15.9	37	84.1
	Insurance/Real Estate	2	15.4	1	7.7	10	76.9
	Manufacturing/Utilities	0	0.0	0	0.0	5	100.0
	Technology	1	4.0	7	28.0	17	68.0
	Other	5	10.4	8	16.7	35	72.9
Size of the	0 - 100 employees	3	8.3	3	8.3	30	83.3
Organization:	101 - 1,000 employees	1	3.2	5	16.1	25	80.6
	1,001 - 5,000 employees	0	0.0	0	0.0	19	100.0
	5,001 - 10,000 employees	3	12.0	8	32.0	14	56.0
	10,001 - 30,000 employees	0	0.0	3	21.4	11	78.6
	30,001+ employees	1	2.9	9	25.7	25	71.4
Years of HRD	1 - 10	1	1.4	13	18.6	56	80.0
Experience:	11 - 20	5	8.9	9	16.1	42	75.0
	21 - 30	1	4.0	3	12.0	21	84.0
	31 - 40	0	0.0	3	42.9	4	57.1

Note. *N* = 163

Appendix H
IRB Consent Form

![USF University of South Florida logo]

Informed Consent to Participate in Research
Information to Consider Before Taking Part in this Research Study

IRB Study # _____

You are being asked to take part in a research study. Research studies include only people who choose to take part. This document is called an informed consent form. Please read this information carefully and take your time making your decision. Ask the researcher or study staff to discuss this consent form with you, please ask him/her to explain any words or information you do not clearly understand. We encourage you to talk with your family and friends before you decide to take part in this research study. The nature of the study, risks, inconveniences, discomforts, and other important information about the study are listed below.
Please tell the researcher or study staff if you are taking part in another research study.
We are asking you to take part in a research study called:

Environmental Perceptions to Promote
Self-directed Learning in the Workplace

The person who is in charge of this research study is Trevor Bernard**.** This person is called the Principal Investigator. However, other research staff may be involved and can act on behalf of the person in charge. He is being guided in this research by Dr. William Young.

The research will be conducted at your current location where you received this consent form.

Purpose of the study
The purpose of this study is to:
*   The purpose of this study was to identify perceptions of environmental changes that promote self-directed learning in the workplace by Human Resources Development (HRD) practitioners and to investigate possible differences of LPA score variables to independent variables of highest level of education achieved, race/ethnicity, age, gender, position title, industry, size of the organization, and years of HRD experience.

Appendix H cont.

- This study is being conducted by a student as a doctoral dissertation in partial fulfillment of the requirements for the degree of Doctor of Philosophy at the University of South Florida.

Study Procedures

If you take part in this study, you will be asked to:

1. Complete the *Informed Consent to Participate in Research* form
2. Complete the *Demographics Information Sheet*
3. Complete the *Survey of Adult Learning Traits*

All information will be anonymously coded and the researcher will not have access to specific participants' results. The total combined time should be approximately 10 minutes.

Total Number of Participants

A total of 250 individuals will participate in the study at all sites.

Alternatives

You do not have to participate in this research study.

Benefits

We are unsure if you will receive any benefits by taking part in this research study.

Risks or Discomfort

This research is considered to be minimal risk. That means that the risks associated with this study are the same as what you face every day. There are no known additional risks to those who take part in this study.

Cost

There will be no additional costs to you as a result of being in this study.

_____

Consent to Take Part in this Research Study

It is up to you to decide whether you want to take part in this study. If you want to take part, please sign the form, if the following statements are true.

I freely give my consent to take part in this study and authorize that my health information as agreed above, be collected/disclosed in this study. I understand that by signing this form I am agreeing to take part in research.

_____   _____
Signature of Person Taking Part in Study   Date

_____
Printed Name of Person Taking Part in Study

Statement of Person Obtaining Informed Consent

I have carefully explained to the person taking part in the study what he or she can expect from their participation. I hereby certify that when this person signs this form, to the best of my knowledge, he/ she understands:

Appendix H cont.

- What the study is about;
- What procedures/interventions/investigational drugs or devices will be used;
- What the potential benefits might be; and
- What the known risks might be.

I can confirm that this research subject speaks the language that was used to explain this research and is receiving an informed consent form in the appropriate language. Additionally, this subject reads well enough to understand this document or, if not, this person is able to hear and understand when the form is read to him or her. This subject does not have a medical/psychological problem that would compromise comprehension and therefore makes it hard to understand what is being explained and can, therefore, give legally effective informed consent. This subject is not under any type of anesthesia or analgesic that may cloud their judgment or make it hard to understand what is being explained and, therefore, can be considered competent to give informed consent.

_____
Signature of Person Obtaining Informed Consent / Research Authorization Date

_____
Printed Name of Person Obtaining Informed Consent / Research Authorization

Appendix I
IRB Approval Letter

USF
UNIVERSITY OF
SOUTH FLORIDA

11/3/2017

Trevor Bernard
L-CACHE - Leadership, Counseling, Adult, Career & Higher Education
2431 W. Watrous Ave.
Tampa, FL 33629

RE: **Expedited Approval for Continuing Review**

IRB#: CR1_Pro00027959

Title: An Examination of Preferences of Potential Environment Changes that Promote Self-
         directed Learning in the Workplace by Human Resources Development (HRD)
         Practitioners

Study Approval Period: 11/28/2017 to 11/28/2018

Dear Dr. Bernard:

On 11/2/2017, the Institutional Review Board (IRB) reviewed and **APPROVED** the above
application and all documents contained within including those outlined below.

Approved Item(s):
Protocol Document(s):
Protocol Guidelines.docx

The IRB determined that your study qualified for expedited review based on federal expedited
category number(s):

(6) Collection of data from voice, video, digital, or image recordings made for research purposes.

(7) Research on individual or group characteristics or behavior (including, but not limited to,
research on perception, cognition, motivation, identity, language, communication, cultural
beliefs or practices, and social behavior) or research employing survey, interview, oral history,
focus group, program evaluation, human factors evaluation, or quality assurance methodologies.

As the principal investigator of this study, it is your responsibility to conduct this study in
accordance with USF HRPP policies and procedures and as approved by the USF IRB. Any
changes to the approved research must be submitted to the IRB for review and approval by an
amendment. Additionally, all unanticipated problems must be reported to the USF IRB within

Appendix I cont.

five (5) calendar days.

We appreciate your dedication to the ethical conduct of human subject research at the University of South Florida and your continued commitment to human research protections. If you have any questions regarding this matter, please call 813-974-5638.

Sincerely,

Kristen Salomon, Ph.D., Vice Chairperson
USF Institutional Review Board

About the Author

Trevor Bernard has over 20 years of experience in Human Resource Development and is committed to improving employee performance. He has an analytical approach to promoting talent development inside and outside traditional training solutions and is currently employed at Lenovo as a digital learning strategist.

Trevor holds an M.A. in Adult Education from the University of South Florida and a B.A. in History from Florida State University. He lives in Raleigh, NC with his wife and two children.